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The only independently published trade publication devoted exclusively to Porcelain Enameling and Ceramic Finishing.

Editorial content includes Technical Information, Plant and Processing Articles, Educational Features, and complete Industry News coverage, both editorially and pictorially.

Free-controlled Circulation to those intimately connected with the Ceramic Finishing Industry.

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ceramic finishes on metal

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Smooth performance makes Uverite rate ace-high with production men. ★ ★ The opacity and coverage of Uverite Enamels run uniformly high. Burning range and clean surface make Uverite Enamels easy working. ★ ★ These are a few outstanding qualities which indicate why more production men use Uverite than any other opacifier. When you want a better, whiter surface . . . use Uverite as your mill addition opacifier. Large stocks are available and shipments are unrestricted.

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BRANCHES IN PRINCIPAL CITIES

THE Finish Line

Fourteen years of service in the porcelain enameling industry convinced your editor of one serious industry need — an independently published trade publication, devoted exclusively to Porcelain Enameling and Ceramic Finishing, to serve as a unified voice in this important field.

Work as founder and first editor of a company-sponsored magazine on porcelain enameling — as past Vice President and Executive Committee member of the Porcelain Enamel Institute — and experience in one of the Industry's manufacturing organizations, in capacities varying from Assistant to the Vice President and General Manager to General Sales Manager — calling for contact with many problems of a technical, production and sales nature, served to amplify this conviction.

An Idea

On October 1, 1943, a rough "Dummy" of a proposed new publication (then un-named) to meet this need was presented to a few of the industry's leaders attending a cooperative meeting in Cleveland.

Response

The reaction was unanimously favorable and enthusiastic. Following this a name was selected and the idea presented by personal letter to a larger number of industry leaders, to get a cross section of opinion. Again the response was equally enthusiastic. Dozens of letters received from leading executives and plant men, representing enameling plants and product manufacturers using ceramic finishes, attest to the *need* for such a publication as FINISH and offer *whole-hearted editorial support.* (These letters include representation of the industry's leading Industrial Laboratories, Universities with Ceramic Departments and Co-operative Associations.)

Advertising Support

With the question of editorial support and reader interest answered by a true cross section of the industry, the next important step, a check of advertising support among logical advertisers and their agencies, was made. FINISH was accorded the same fine reception by these companies and agencies — notwithstanding the fact that most advertising departments and agencies frown on taking space in a *new* publication, especially prior to publication of initial issues.

A Responsibility

This strong evidence of the need for a good publication, plus the confidence in the publisher as expressed in pre-publication support by readers, editorial contributors, and logical advertisers alike, places a responsibility in the hands of Dana Chase Publications that can not and will not be taken lightly.

The ball has been passed to us, and we expect to spare no effort in taking it over for a touchdown in the interests of the porcelain enameling and ceramic finishing industry.

Publication Policy

Provide the Ceramic Finishing Field with its first independently published trade paper devoted exclusively to the Industry. (Including all manufacturers of refrigerators, stoves, washing machines, architectural, signs, table tops, reflectors, kitchen ware, sanitary ware, and new users as they enter the field.)

Publish in attractive, modern, readable form a convoy for the best thoughts of the Industry for the advancement of the entire ceramic finishing field.

Edit with open minds, unhampered by prejudices or subsidy, a publication endowed with complete freedom of action, both editorially and financially.

A Start

We are off to a humble beginning with this first issue of FINISH. Your editor has full realization of the fact that the success of this new venture is as dependent on the active cooperation of the organizations in the industry as upon the Publisher and FINISH writers, and it is with this in mind that we ask for reader comments on our first efforts. If you like FINISH, let us know. If you have constructive criticism or suggestions your letter will be even more important. This is *your* publication in which we will serve you to the best of our ability.

Dana Chase

Inland Steel Completes Fifty Years of Service

Founded in 1893

Eight men gathered around a table in Chicago on the afternoon of October 30, 1893—fifty years ago. They were men who saw and understood the needs of the rapidly growing Prairie Empire.

They had come together to found the Inland Steel Company, to purchase a dismantled rolling mill, to place it in operation during a period of war panic and business stagnation. After months of effort the mill was started and in the first year 5,600 tons were rolled into many useful forms for steel-hungry industry and agriculture.

Years passed—some in peace and plenty, others in war or depression. Steadily the little company forged ahead in the quality and the acceptance of its products. Land soon was acquired at Indiana Harbor, where Inland constructed its first open hearth furnaces and rolling mills. Expansion continued—blast furnaces, coke ovens, continuous mills, ore mines, coal mines, a limestone quarry, a fleet of freighters, a thoroughly equipped metallurgical laboratory—until Inland Steel Company was in full control of essential basic materials and the quality of all its many steel products. Production had climbed to 3,300,000 tons annually. Then came World War II.

Almost over night Inland, with modern mills and thousands of skilled steelmakers, turned to provide the steel to defend our country—to win against aggression. Today, fifty years after its founding, Inland is sending its entire output to men who fight. When peace comes Inland again will send steel to men who build.

INLAND STEEL COMPANY

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Cincinnati · New York

Using Porcelain Enameling Equipment
to do War Jobs for Uncle Sam

By Elsa Gidlow • WEST COAST CORRESPONDENT

Exclusive feature finish

When Payne-Mahoney started up in the porcelain enameling business on the Pacific Coast fifteen years ago very few of the illuminated signs in this region had porcelain enamel backgrounds. One reason was that the material had not been properly sold. Another reason was that hardly perceptible warping of the sign face, catching highlights from the neon tubes, might make the sign hard to read. So, the youthful and enterprising partners, Harry C. Payne and Denis Mahoney, decided to build an electrically controlled and heated furnace with high enough sidewalls to provide for hanging all their flat work. This, they believed, would eliminate this warping and give a much flatter ware.

This, first on the coast, 5 by 12-foot box type electric furnace fulfilled its promise, practically eliminated warping and "did a wonderful job in winning adoption of neon to porcelain enamel" says Denis Mahoney. "During the ten year period 1929-1939 at least half the signs out here became porcelain enamel. One illuminated sign producer alone made 90% of his signs with porcelain backgrounds".

From Peace to War

This electric furnace that did such a successful job during peacetime is doing a magnificent war job. More accurately, it is doing two war jobs: one outside the field of porcelain enameling; the other with some entirely new applications of porcelain.

The partners quickly realized when war came that priorities would dry up their normal business. They studied their facilities to determine to what kind of war production they might most effectively convert. Heat treating provided the first answer. "We saw that we could handle a substantial amount of heat treating work in our two electric furnaces. Practically no change would be necessary; and the great advantage was that we could continue our porcelain enameling work — as much of it as might be procurable — at the same time with the same equipment."

First Heat Treating Job

In January of 1942 Payne-Mahoney took on their first heat treating job. The only plant conversion necessary was in handling equipment. Some of the pieces brought in for heat treating during the ensuing two years were considerably heavier than the heaviest metal sign. Payne-Mahoney changed over to the heavier duty handling facilities and then went out after heat treating jobs in a big way. They took these jobs on a subcontracting basis from prime war contractors with Government orders. "The work didn't come to us," said Mahoney. "We knew our equipment was suitable for heat treating work, we made the necessary change-over, and then went out and asked for the work we knew we could do." They soon had a very great volume of this work. It has kept up steadily now for two years, the jobs ranging from heat treating of machine tools to ordinance. They have done a great deal of heat treating of fittings used in ship construction. Tool manufacturers and shipyards are among their best customers. Pieces ranging in weight up to 1,800 pounds are treated in the furnaces, with complete success.

So as to control temperatures in the lower range, Payne-Mahoney eventually made quite a few alterations in their pyrometrically-controlled electric furnace No. 2.

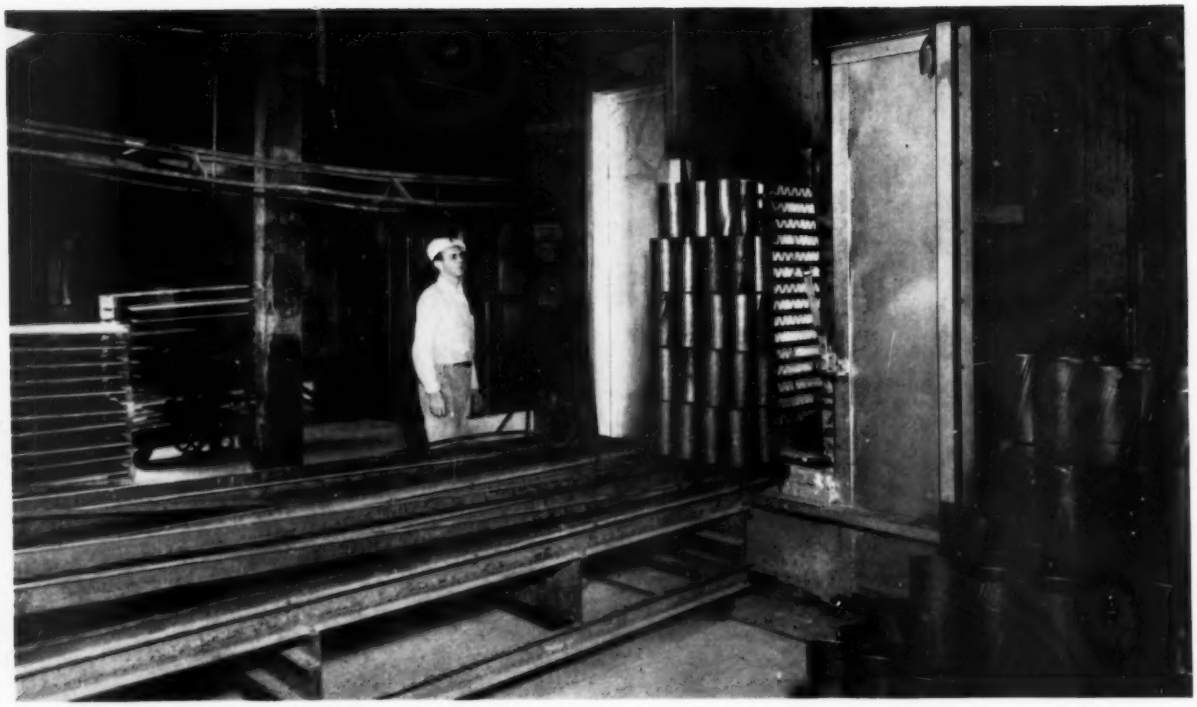
"Of course if our furnaces had been of the gas- or oil-fired type, we could not have converted to heat treating," *(without major furnace alterations)* Mahoney says. "Having the electrical furnaces enabled us to do this, with a minimum of expense involved in change over."

Equipment—Man Hour Ratio

A great advantage in the heat treating work is that it requires a minimum of labor. Here on the Pacific Coast, manpower is one of the scarcest and most precious of "commodities" and the business man who does not have to compete for a lot of expensive man hours is in a desirable situation. Heat treating necessitates long use of equipment, small use of labor. The ratio of equipment use to man hours for heat treating is figured by Mahoney at about 10-1; in porcelain enameling work the ratio is almost the other way around. Much of the heat treating work is done on night shift.

Elsa Gidlow

Miss Gidlow has done editorial work for your editor for a number of years and it is with pleasure that finish *welcomes her as West Coast Correspondent. She will keep our readers informed of industry activity in this increasingly important industrial section.*



A load of metal tubes ready for heat treatment in one of the porcelain enameling furnaces at Payne-Mahoney's, Oakland, California plant. This firm heat treats several hundred metal fittings a day for the Government.

"We are doing about half of our pre-war dollar volume with one-fifth of the labor force," Mahoney says. One reason for the present economy in labor utilization is that the plant layout has been improved and altered to do away with unnecessary operations.

Porcelain Enameling, Too

Some of the plant's war work calls for both heat treating and enameling. For instance, a recent job was on a rheostat tank made of very heavy material. It had to be porcelain enameled after a stress relieving operation. This tank weighed 1400 pounds. Cross sections varied from 1½ to ¼" in thickness. "We did a good job on it," Mahoney commented. "Before the war that tank would have been made of stainless steel, monel metal, copper, or some other non-ferrous material". During this war period, Payne-Mahoney have been enameling a number of different types of tanks for production plants, photographic enterprises, etc. In many places where more expensive materials were demanded, iron tanks covered with porcelain are now being tried.

The heat treating work continues fairly steadily, with a tremendous demand by the Army and Navy for heat treating of certain part fittings—uses unspecified. For the past two years Payne-Mahoney have done several hundred a day of these fittings, destined for an important war use—and the demand still holds.

Sand Blast Busy

The firm is making use of another department of its porcelain enameling plant in war work. This is the sand blast section, used in normal times for porcelain enameling operations with cast iron. When the war came, with demand for every sort of equipment, Payne-Mahoney made its sand blast available to those in need of this work in annealing operations —to clean from parts the scale acquired in annealing. Contractors in the Oakland vicinity formerly had to haul their work twenty-five miles to have this done. . . . . .

"But our bread and butter — or should I say the butter on the bread — is the specialty enameling we have been doing recently for the Government and for industries with priorities that don't extend to vital materials."

This specialty work extends all the way from small and large kitchen and galley equipment for the Navy, to many kinds of porcelain enameled piping and fittings. It includes also the tanks mentioned before.

The piping is an interesting use of porcelain. Payne-Mahoney are doing a great deal of it, on piping ranging from 1½" to 6" sizes, enameled inside and out in lengths up to eighteen feet. ("Handling eighteen foot lengths of pipe in a twelve-foot furnace presents its problems," laughs Mahoney, "but we solved them"!) The principle demand for this porcelain enameled pipe comes from oil refineries, copra production plants, canneries, who order many thousands of feet. One job alone ran up to seven thousand feet. The enameled piping is a substitute for stainless steel and other metals now unobtainable. Whether its use will survive the war depends on the tests being made of its performance and durability in the plants experimenting with it. The initial cost is of course cheaper than the materials for which it is substituting.

Navy Uses Porcelain

The United States Navy has begun to make wartime use of porcelain enamel in a big way, and the demand seems likely to continue. Details of some of the uses cannot be discussed at this time, but the Navy department is now specifying porcelain enamel wherever practicable as a substitute for more critical materials. A great deal is being employed in kitchen and galley ship construction. Much white metal was used formerly for drain boards, steam tables, back splashers and in other kitchen construction. Now the Navy is ordering porcelain enamel for these sections.

The most recent use of porcelain by the Navy Department is for coffee urns, formerly made of strategic metals. Payne-Mahoney have produced well over a thousand of these porcelain enameled coffee urns ranging in size from a modest four gallons up to eighty gallons. True to its reputation for buying in astronomical quantities, the Navy Department kept the plant busy for several months on this job of enameling urns. Demand for enameled kitchen equipment for ships continues steady.

Another important war job undertaken by Payne-Mahoney has been unusual enameling assignments for the experimental laboratories in this region, some of it in connection with very vital war activities. "These laboratories have brought us pieces that have never been enameled before," Mahoney says. "Sometimes we wondered. But we soon realized that they knew what they were about. We have solved some fascinating problems in connection with this work with the laboratories—which at times has constituted as much as half of the work being done here — and there is no doubt that some of what we have learned can be effectively applied after the war."

Mahoney thinks it is a little early to discuss these applications, but he does say, "I believe we are going to be enameling more types of metal than in the past. . .

But the experimental work will not immédiately follow the war's end, Mahoney says. "I agree with the automobile industry men who say that production will pick up where it left off. Our industry will do that too, to begin with."

Big Backlog of Jobbing Business

One reason for this statement is the tremendous backlog of work in signs and general jobbing. Payne-Mahoney say they have enough to keep them busy for a long time. "The neon sign business alone will be tremendous here on the Coast. There is every indication of this fact."

Mahoney believes his firm will be better fixed in the matter of equipment and plant facilities to handle this large amount of work than they were when their peacetime business ceased. During the past two years of wartime operations they have taken the opportunity of slack days to make many improvements in their plant layout, primarily with the objective of meeting the tight manpower situation. Changes have been made which would enable fewer persons to do more work. "It is difficult to describe these alterations: often they were so slight," says Mahoney. "For instance, moving an airline a few feet, an alteration job perhaps requiring a couple of days, has had a profound effect on production." Many slight but important changes like this were made.

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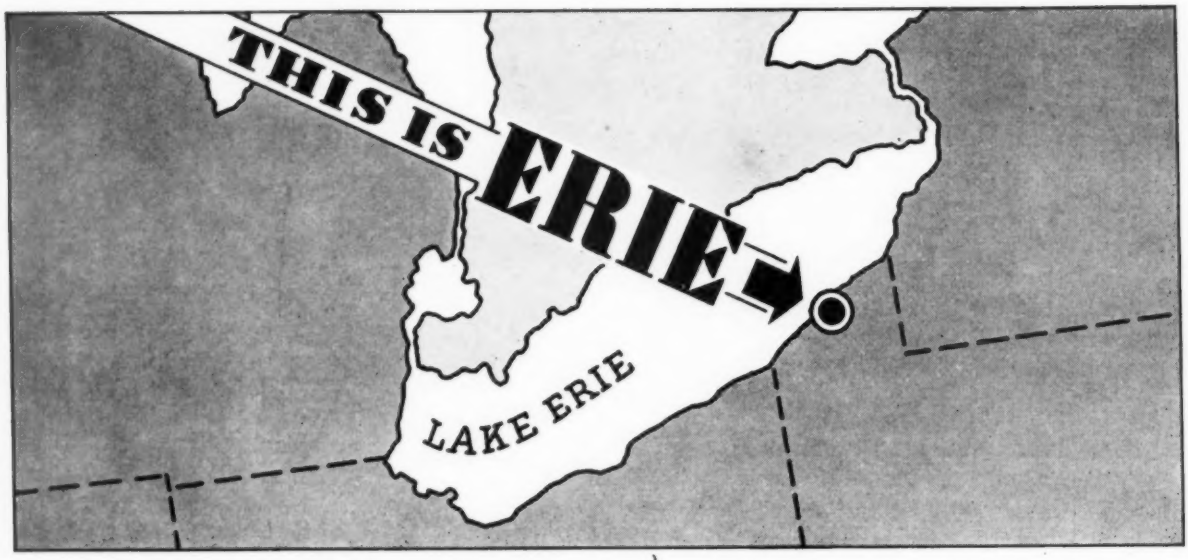
This view shows the furnace layout in this West Coast plant. One of the Company's big war-time jobs is heat treating of metal fittings. Here you see such a job in one of the electric furnaces.



Yes, This Is ERIE

for all present and post-war considerations

Our first job is to win the war. But during this time of all-out effort, it is only good sense to consider the peace which is to come. . . . Perhaps sooner than we dare hope. And in this regard we offer three Erie services:

ARCHITECTURAL:

New finishes and new methods to meet post-war needs for modern store-fronts, office buildings and service stations. With Erie you find the advantage of years of experience in designing, fabricating, and enameling, plus complete erection service by a thoroughly trained staff.

INDUSTRIAL:

Our especially formulated coatings protect either cast iron or steel from rust and corrosion, and from almost every acidic condition. Erie has developed a protective coating for all types of industrial equipment — to meet existing requirements.

GENERAL JOBBING:

Erie's modern enamel jobbing shop is personnelled by trained men capable of servicing any need for ceramic metal finishing. whether it be for beauty, color, or sheer protection.

THE ERIE ENAMELING COMPANY
ERIE, PENNSYLVANIA

We built a plant

for low temperature ceramic finishes

By R. A. Flum • GENERAL MANAGER, CONTINENTAL INDUSTRIES, INC., CHICAGO

Exclusive feature finish

The protection of metal against corrosion has always been a subject of vital interest to industry. Twenty years ago, a ten to twelve-hour salt corrosion test with a twenty per cent (20%) salt solution was considered a good standard if attained on iron or steel. There have been notable improvements since that time, the most outstanding example of which is the matter of bumpers on our automobiles, a high percentage of which will now stand up for the life of the car, notwithstanding the ravages of salt used for melting ice on the city streets, and more prevalent today than formerly.

New Ceramic Coating

It was naturally very interesting to read the reports by professional chemists of their findings with low temperature ceramic coatings which, when properly compounded and applied, would show a consistent resistance of salt corrosion up to two hundred hours. In view of the effort applied in connection with various types of coatings for iron and steel to attain results beyond one hundred hours test economically, it appeared that this ceramic type of coating really "had something". At the time, our interest was purely academic but later developments in connection with our war contracts gave our company a keen interest in studying the possibility more thoroughly from a practical stand-point.

War Production

One of our first war contracts was for the manufacture of the Army Field Range which was at that time constructed entirely of extruded and sheet aluminum, and stainless steel sheets and parts. The inner sheets, doors, and lids of the range were of stainless steel, and the frames, base, and outer sheets of aluminum. We all know what happened to stainless steel and aluminum in the war picture. The impossibility of meeting all needs for stainless sheets and aluminum led to the rapid conversion of products for which it was not too vitally required.

Conversion

The first step in the conversion process was the changing of the lining to porcelain enameled steel; the outer shell to galvanized iron; with the remainder of the sheet metal parts of the range protected by a light coat of wax or volatilized linseed oil, and the castings and small parts zinc plated. Field results with this range were not entirely satisfactory, as can be imagined, due to early rusting of exterior parts; and the galvanized sheets offered the objection of high visibility and reflection for spotting from the air.

New Finish Tested

About this time the Quartermaster Corps became interested in a new type ceramic coating for a dual purpose — first as a protection against rust and corrosion and secondly as a camouflage coating. This new type finish came to our attention as one of the contractors on the field range, and we were naturally vitally interested as we were not equipped at the time to apply high-baked or cured finishes of this nature.

Equipment Analysis

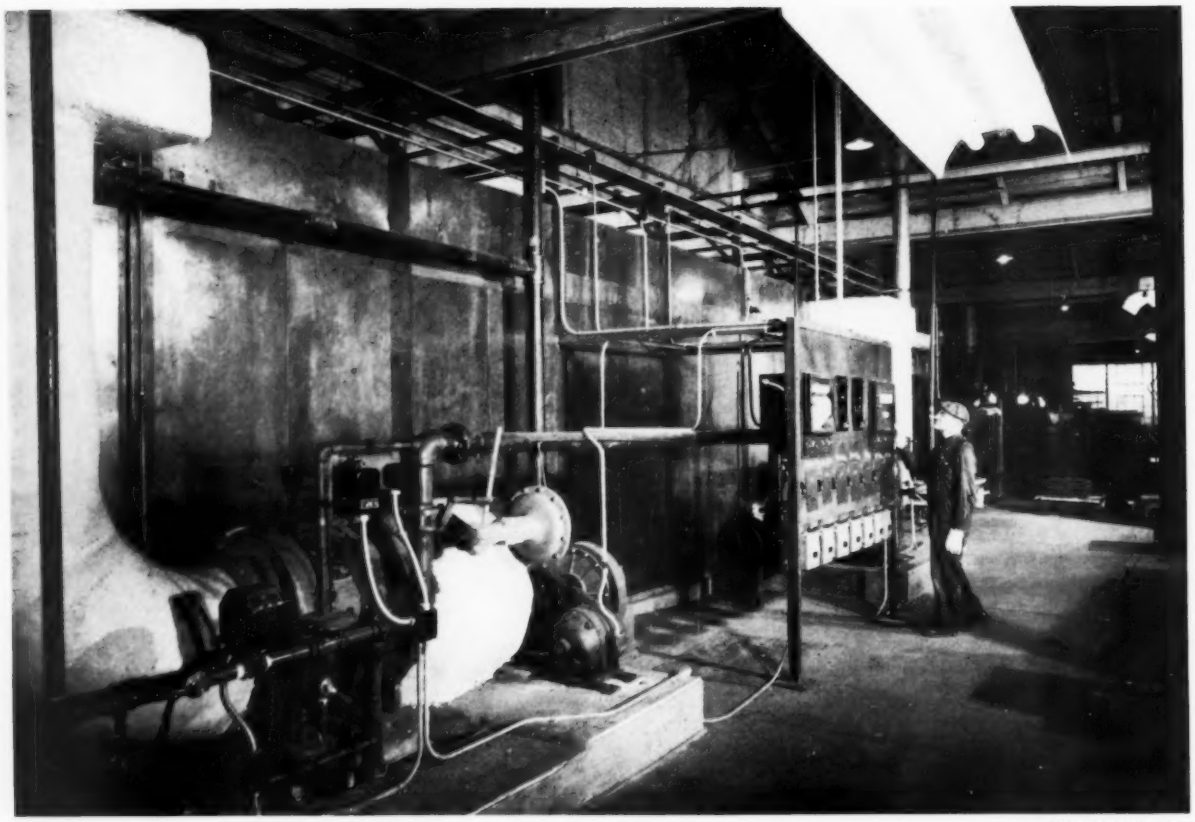
We immediately analyzed the equipment that would be required in order to meet the Quartermaster Corps specifications and it was our analysis that to do the job properly, the curing equipment would have to be engineered especially to suit the specification requirement. We felt the use of existing types of equipment would be an expediency and might not prove entirely satisfactory. Having our own engineering staff, and a complete sheet metal working plant, we set out with the idea of designing equipment that required a minimum of critical material, and planned to do as much of the fabrication as possible in our own plant in order to conserve much needed labor.

It was apparent it would not be possible for us to finish the continuous-oven type plant that we had designed in time to meet our earliest contract commitments. We, therefore, set up a pilot oven for early operation to hold us over until the high production equipment was completed.

The following is an outline of the plant installation which is now complete and in operation.

R. A. Flum

Mr. Flum spent seventeen years in the automotive industry as production engineer, plant manager, assistant general manager — has spent thirteen additional years in industrial engineering. In addition to his executive position at Continental Industries, Inc., he is also Vice-President of Brunker, Jones & Page, Inc., Chicago, Illinois.



HEDRICK-BLESSING PHOTO

Section of the new continuous oven in the plant of the Continental Industries. This view is taken from a point near the unloading end of the oven. In the foreground is shown one of the 1,000,000 BTU burners which feeds the "hot zone". The housing for the second burner can be seen in the background. Notice the control panel located at the center of the oven installation on which is mounted all control equipment including both recording and controlling pyrometers.

Metal Cleaning

In our pickling section we use alkaline cleaning and acid pickling. The pickling room installation adheres basically to current standard pickling practice for other ceramic coatings. We started out with the idea of providing facilities that would clean metal perfectly prior to coating. When equipment was installed, we incorporated all possibilities with regard to maintenance of health standards.

Tanks are 4′ x 8′; tank rims are 3½′ above the operator's platform, and the platform in turn is 18″ off the floor. The ware is handled in baskets suspended from a monorail conveyor using an electric hoist.

Both cleaner and acid tanks have adequate exhaust systems. Steam and fumes are taken off at tank level by an exhaust fan that pulls 10,000 C.F.M. at 1″ pressure and is powered by a 3 H.P. motor.

Rinse tanks are provided with sprays in addition to the immersion rinse.

Elevated tanks were used instead of depressed tanks in order to give flexibility, and we can already see a desirability of changing, or rather adding to, the present equipment. We are contemplating a pre-clean line for three reasons:

1 — To add to the effectiveness of the cleaning.

2 — To give a better cleaning production from the regular routine cleaning job, and

3 — A more economical consumption of cleaner.

Blasting

Our sand blast installation consists of a cabinet blast. All small malleable castings for the field range are cleaned in this manner. The cabinet, however, is designed so that it will take pieces 26″ wide, and is of dual end, "curtained" construction so that any length part not to exceed 26″ in width or 10″ in height can be passed through the blasting cabinet.

Fabricating Department

About 80% of the fabrication work required on the field range is done in our own plant and the balance, subcontracted. Most of the fabricating is routed through shears; large, medium, and small power press brakes and punch presses with the usual complement of drill presses and some special purpose equipment; spot welders, gas and arc welders; grinding and polishing. The grinders are all hooded and connected to a dust collecting system of more than ample capacity to secure a high standard of working atmosphere under grinding conditions.

Spray Booths

Present installation consists of five spray booths, four of which are generally used for steel and the fifth for cast iron. There is ample space in our layout for expansion of this department if required. Regular ceramic type spray guns are used, and fifteen gallon agitated spray tanks feed the material. General practice is to scrape down the spray booths at the end of each week. An interesting feature of our spray booths is in our baffling system, which is somewhat different from the customary honeycomb baffle provided in dry type booths. The special baffling system installed gives uniform flow of air across the entire face of the booth opening. Tests were made by measuring the air flow at various points across the face of the booth both vertically and horizontally, with a volume and velocity Air Meter and once the system proved effective it was made standard for installation in all booths.

Pilot Oven

The pilot oven is of box type construction with double doors on one elevation only. This oven is approximately 6′ deep by 7′ high by 7′ wide. Heat is provided from a 500,000 BTU per hour gas burner, using Chicago City Gas which has a rating of about 800 BTU per cubic foot.

As we had anticipated, it was necessary to go into production on the coating of Army Field Range Parts prior to completion of our continuous type oven. For temporary handling in this manner stationary racks on skids were loaded at the spray booths and these skids were used for transporting and as burner racks in the box type oven. We found that this pilot oven would handle about 1,000 net pounds of ware per hour. We also found that an ovenload consisted of approximately 850 square feet, based on the average size of parts run. Both steel sections and small castings could be placed in the oven on the same load.

Production Oven

Doubtless, our production oven affords the point of greatest interest in our plant for the ceramic finisher. We had a number of procurement problems in this connection, and up to the time our plans were drawn no standard had been established for an oven to meet the specification requirements. We employed our own engineers in addition to consulting engineers, and evolved a unit which it was felt would readily meet the specification requirements of this new type coating. The oven is of straight away, tunnel, continuous conveyor type. It employs a double chain cross bar conveyor similar to that used on many Japanning ovens. The free opening is 44″ by 58″. Total length overall is 45′ with an outside loading structure 10′ long and an outside unloading structure 21′ long.

At the present time we are handling the transportation of the sprayed parts from the spray booth to the

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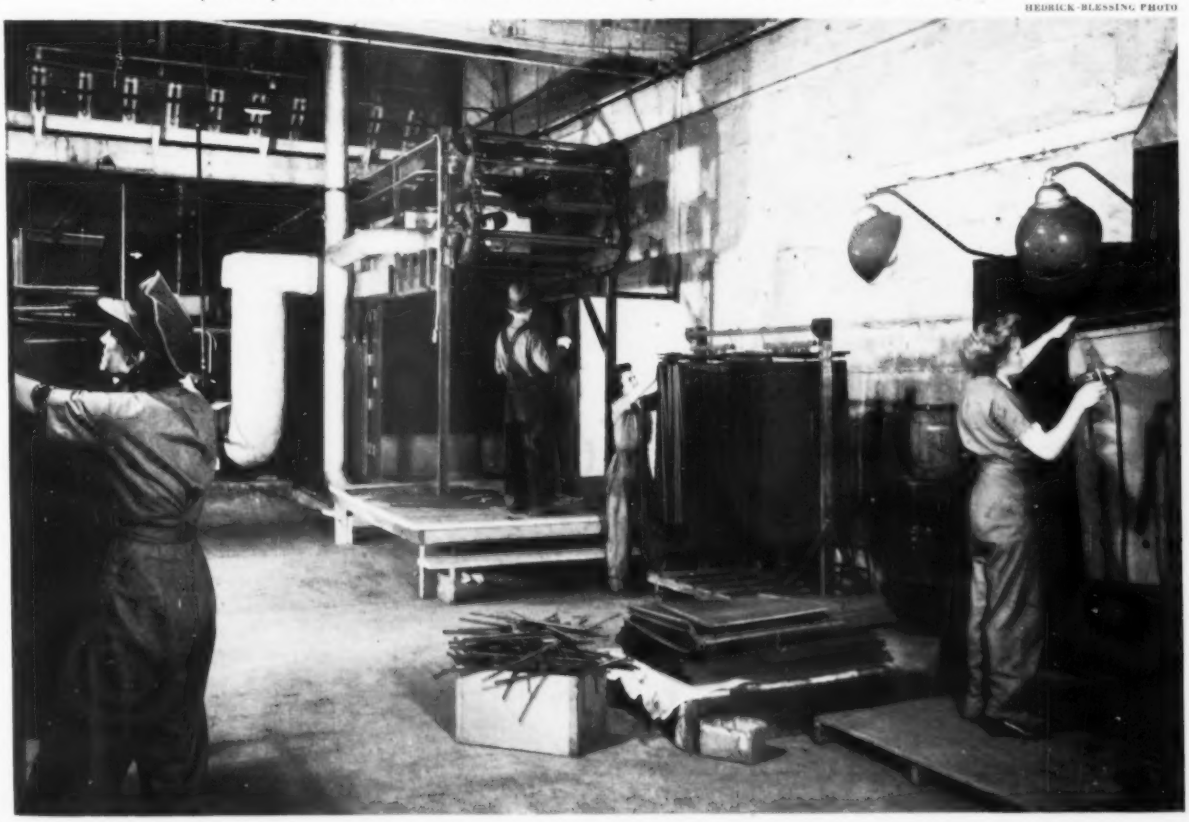
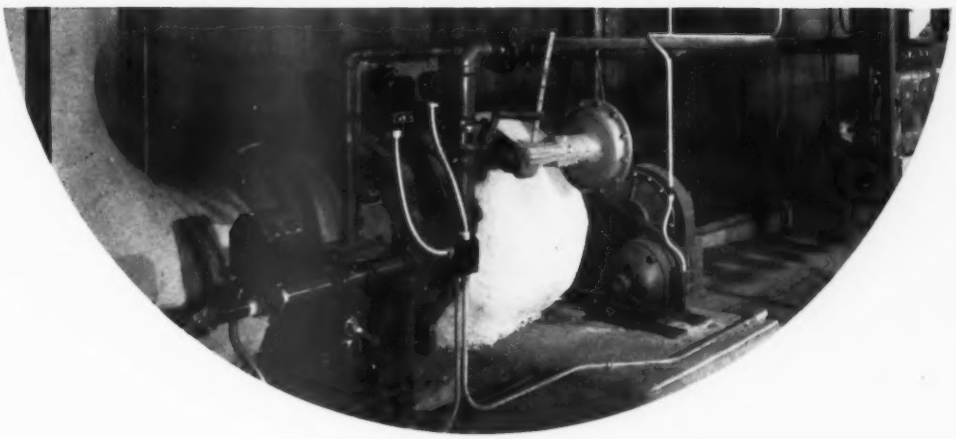
This view shows the loading end of the continuous oven. The spray booth to the right is one of a series which feed the racks used to transport the ware to the oven. The ware is in turn transferred from these racks to the cross bars of the double chain oven conveyor.

HEDRICK-BLESSING PHOTO



COMBUSTION PROBLEMS?



Call Jackson...

If you have an industrial combustion problem call us for consultation. If it is burners for vitreous enameling furnaces, immersion coils for pickle room installations, air heaters for drying frit or curing ovens for low temperature ceramic coatings, we can solve your problems.

In the new finishing plant at Continental Industries, Inc., Chicago, Western Products furnished the air heaters, safety shut-off valves, burners, proportional mixers and all blowing equipment for the ovens. In addition, we furnished the immersion coil burners, blowing equipment, valves and regulators for the pickling and cleaning department.

This installation is only typical. Tell Jackson your problem. We will solve it with engineering counsel and the equipment best suited for your needs.

ROGER W. JACKSON, Consulting Engineer
549 WEST WASHINGTON BLVD. CHICAGO, ILLINOIS

Agent For **WESTERN PRODUCTS, INC., Newcastle, Indiana**

R. R. Trubey — Clyde Porcelain Steel Corp., Clyde, Ohio is known as a source for production enameling, and more particularly for porcelain enameled tile. Trubey, the President, has his own ideas concerning what we should call Porcelain Enamel — what's more he sticks to his ideas, and has won his case in court.

Milton Gallup, President of Porcelain Metal Products Co. of Pittsburgh — "Milt" runs a jobbing shop at the Company's Carnegie, Penna. plant. He has always been very much interested in, and a big booster for Architectural Porcelain.

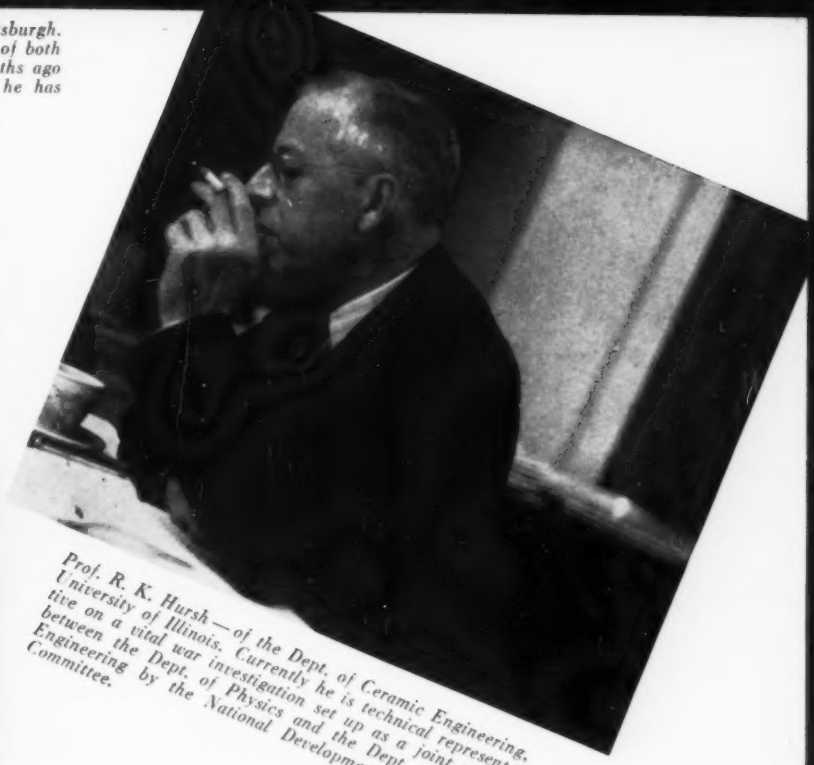
Exclusive feature finish

PEOPLE YOU KNOW

L. D. Mercer — "Lee" Mercer is known to most enamelers. He is shown here in his office in Terminal Tower, Cleveland, Ohio, where he is Assistant Manager of Sales, Sheet and Strip Division, for Republic Steel. Genial, friendly, and an old-timer in the enameling sheet game — he believes in Porcelain Enamel.

A. P. Chester — "Ike" needs no introduction to stove manufacturers. He is President of Globe American Corp., Kokomo, Indiana, and a Past President of the Stove Institute. His company is taking an important part in the war picture, building small boats and other important equipment.

E. M. Hommel — President of the O. Hommel Company, Pittsburgh. The Company is known throughout the industry as a supplier of both Frits and Colors. "Ernie" sustained painful burns some months ago in connection with some of the Company's war work, but he has refused to let it interfere with his industry's activities.



Prof. R. K. Hursh — of the Dept. of Ceramic Engineering, University of Illinois. Currently he is technical representative on a vital war investigation set up as a joint project between the Dept. of Physics and the Dept. of Ceramic Engineering by the National Development and Research Committee.

Strictly Candid

OR SHOULD KNOW

E. H. Weil — President of Vitreous Steel Products Company, Cleveland, Ohio, and Nappanee, Indiana — and camera shy. The Vitreous plant has been busy on vital war materials, but about prospects for porcelain enameling Edgar Weil says, "I am extremely optimistic about the future of the enameling industry."

D. C. Hutchins — "Don" is one of the "three horsemen" (Barker, Hutchins and Manss) who own and run the Andes Range & Furnace Corp. of Geneva, New York. His personality wins friends easily, and his disposition holds them permanently. You should meet him if you haven't.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Chicago Journal of Commerce
— AND LA SALLE STREET JOURNAL —
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EDITORIAL OPINION SAYS:

nplete Your Post-War Planning N

IF the European phase of the war doesn't fold up pretty soon there will be a lot of red-faced editors. Almost unanimously they say, "Complete your post-war planning now. There is no time to lose."

•

Doubtless you will have entirely new products, or new developments, or new refinements to old products, to be exploited after the war. All these products will have to be finished; some perhaps with an entirely new and different finish.

•

What is your post-war finishing problem? Get the counsel and advice of Chicago Vit. engineers and technicians *now*. While Chicago Vit's plant is, and will continue to be, 100% war work, our unequalled laboratory facilities are available *today*—to work on your finish problems *tomorrow*. Get started now. *There is no time to lose.*

CHICAGO VITREOUS ENAMEL PRODUCT CO.
Cicero • • • Illinois

Piling up business for you

ALL STEEL KITCHEN. In this delightful easy-to-clean kitchen, sink, refrigerator, table, stove, light trough and wall panels are of porcelain enamel fused on a base of U·S·S VITRENAMEL.

YOUR peacetime market is growing by leaps and bounds, even while the entire resources of the porcelain enamel industry are devoted to peak production of war goods.

Post-war surveys indicate that millions of people are planning to build, buy or remodel homes, add bathrooms, modernize kitchens, buy stoves, refrigerators, washing machines and other household appliances.

Here is a picture in which the post-war enamelist will be sitting pretty, because so many of these people will want the things he knows how to supply. No matter what designers dream up, or what "substitute materials" war has produced, when the time comes to go back to making the things people want, nothing can seriously threaten the time-proven popularity of good porcelain enamel —*on the right metal base.*

Carnegie-Illinois metallurgists knew the importance of a good metal base for good porcelain enameling. That's why they spared neither time nor effort to produce a sheet in which you could have complete confidence —one that would have the ductility and strength to take deep, difficult draws, the flatness to hold a smooth, level surface, the finish to grip the enamel securely. It was through painstaking research, not just by happy accident, that we produced U·S·S VITRENAMEL.

We're just as eager as you are to swing into that coming demand. And you will find us ready when the time arrives. U·S·S VITRENAMEL has gone to war, but you may be sure it will be back when you need it, probably even better for the experience.

Let our VITRENAMEL engineers help you to keep up with the trend of present and future demand for porcelain enamel products. Write today, without obligation, for this technical service.

ONE AIM . . . VICTORY, *BUY BONDS!*

U·S·S VITRENAMEL SHEETS

CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh and Chicago

Columbia Steel Company, San Francisco, *Pacific Coast Distributors* · United States Steel Export Company, New York

UNITED STATES STEEL

Wartime Conference

For Stove Industry

Eleventh Annual Convention
Institute of Cooking & Heating Appliance Mfrs.

SAM DUNCKEL's Institute of Cooking and Heating Appliance Manufacturers held their Eleventh Annual Meeting December 1, 2, and 3, at the Netherlands Plaza Hotel in Cincinnati. Attendance was excellent and the program was one of the most interesting that has been offered this group of stove builders.

In contrast with the previous program policy, the featured speakers this year were all from within the Stove Industry. Many important problems were considered at the Convention, including termination of contracts, product rationing, conversion and reconversion, pricing policies, etc. It was the decision of those who set the policies for the stove meeting that these problems could best be answered by those who were facing them daily from a practical standpoint, and were willing to share their experiences with their competitors in the interests of Industry progress.

Wednesday, December 1, was devoted primarily to registration, meeting of the Board of Trustees, and meetings of the Executive Committees of the oil, gas range and solid fuel divisions.

Activity Report

John E. Russell, newly elected president, presided at the first general session. In his opening remarks he reviewed the situation with regard to Government orders, meetings with Government agencies such as O.P.A. Pricing Division and O.P.A. Rationing Division. He outlined the work done by the Board of Trustees in reviewing all Government orders in July to show (in a 48 page report) to the Government and to the Stove Builders their true situation.

Mr. Russell reported 36 new members this year, with a current total of 155. He indicated that this represents 80 to 85% of the cooking and heating industry's production.

He covered many details of the Institute's work in Washington, a few of which included the handling of 1700 letters per month, playing host to an average of 5 member visitors per day, and the handling of an average of 75 material applications and appeals per month.

Mr. Russell said, "The coming year will be a difficult one for this industry." It was evident that he felt that it was only through cooperative effort in a group such as the Institute that some of their mutual problems might be effectively handled.

The highlight of Thursday was the keynote address by the Convention Chairman, Henry H. Morse, Vice President of Florence Stove Company.

Current Problems

The general session for Thursday included "down-to-earth" discussions on subjects of prime current importance such as material and man power problems, pricing problems now facing the stove manufacturers, effect of rationing on stove production and distribution, and problems related to termination of war contracts and reconversion to civilian business.

Friday was devoted principally to Division Meetings in which problems relating to the individual groups could best be handled. These meetings included those of the electric range division, gas range division, oil division and solid fuel division. There was a meeting of the oil furnace manufacturers Friday afternoon.

While a number of Government men were in attendance at the Convention, they did not take active part in the program, but were there for the purpose of informal discussion and

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More Convention Photos — Pages 26-27-62

Left: A general session at the Cincinnati Stove Convention. — Right: Pauline Dunckel, Secretary of the Stove Association, assembles data for John Russell, the Association's Newly-Elected President.

SNAPSHOTS AT THE

Circle: Frank Schneider, Florence Stove, (Gardner), enjoys the convention banquet.

Right: Marshall Stove's Pres., Lewis Moore, Jr., addressed the Convention on "Profit in the Stove Industry."

Above: O.P.A.'s Tom Kelly, Chief of Stove Pricing Unit, explains the situation to Estate Stove's president, David Kahn.

Above left: Motor Wheel Corporation's Vice Pres., Cotes; American Stove's Vice Pres., Little; and Southern Cooperative Foundry's President, Gordon, grace the speakers' table.

Right: A. C. Anderson, New Monarch Machine & Stamping, tenders the "gravy" to brother C. S., the Company's Vice Pres. and Sales Mgr.

Above: (Facing Camera) H. T. Ryan, Vice Pres. of Robertshaw Thermostat, plays host at the Company's open house.

"This is the way it works," says Commander Wm. J. Mauer, Bureau of Yards and Docks, Navy Department, Chicago.

Above: Characteristic pose for Bruce Wilson, Motor Wheel Corporation's Washington Representative.

Below: If you lay your money on the line promptly on registration day at the Convention you will get a flash of this smile from Dorothy Way of the Institute of Cooking and Heating Appliance Mfrs. staff.

STOVE CONVENTION

FINISH FOTOS

Right: Agricola Furnace's Vice Pres. Ackerson dining with S. J. Lonergan, Pres. of Lonergan Mfg. Co.

Below: Left to Right: Estate Stove's Vice Pres. Albert Kahn; Herbert Burgess of Majestic Mfg.; and Ferro Enamel Corporation's Asst. Sales Mgr., "Woody" Wilson.

Below: Moore Corporation's President, "Ed" Priest, is always on deck for the Institute Convention, and takes active part in industry cooperative work.

Cooperative Action gets results

That in brief is the story of P. E. I. and the experience of its membership. P. E. I. is *the* only organization that represents and speaks for the Porcelain Enameling Industry which it has served with increasing effectiveness for many years.

Progressive manufacturers more and more realize the advantages of working together . . . meeting and exchanging information . . . discussing mutual problems . . . and making plans that lead to greater security and prosperity for all.

P. E. I. has proved itself a helpful and profitable tool to every member's operation and it proudly boasts the active and enthusiastic support of the leaders of the Industry . . . companies and individuals alike.

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DURABILITY PORCELAIN ENAMEL Fused on Metal BEAUTY

A War BABY

Does a MAN Size Job

By Nathan Klein • MANAGER, CALORIC GAS STOVE WORKS, TOPTON, PA.

Exclusive feature

When the war broke and it became apparent that the country's principal industries must convert their manufacturing facilities to the production of war goods, we at Caloric, like all other manufacturers, began a study of the possibilities for our taking a place in the war picture. As I told the editor of FINISH at that time, our company was interested primarily in holding our organization intact during the war. Naturally we were hopeful of finding suitable production so that our plant could be turning out needed products.

Like many manufacturers, we studied a wide variety of production possibilities for a plant of our type which, like the average large stove company, consists of sheet metal working equipment, foundry, finishing departments for both porcelain enameling and japanning, and the customary assembly facilities. We took on quite a few manufacturing problems which were foreign to our past experiences but these various jobs were not adaptable to mass production which we were accustomed to.

An Answer and a Question

The answer to our search for a job that would not only keep our plant busy, but serve a war need, came with the advent of the fuel oil shortage, at the time when it became apparent that the various government agencies would require a large number of solid fuel burning heaters to furnish heat for their many projects. Not only that, it was soon equally apparent that many homes would have to add some auxiliary heat, using hard fuel, or convert entirely to coal in order to save the valuable oil supplies so necessary to the conduct of the war.

While this seemed a logical answer to problem No. 1, it presented a definite question as to the type of heater that could be built with a minimum quantity of strategic materials and still be efficient enough to conserve coal which everyone realized was also to play a vital part in connection with the war.

Research Program

In order to get some of the answers to this question we set up the Conservator Products Company as the research division of our company, under the direction of Perry Martin, for the purpose of going as deeply as possible into the problems of combustion principles in relation to coal burning heaters. Much interesting information resulted from this work. Methods were found to separate the volatile elements in coal from the solids, and means devised to burn both in separate combustion chambers to eliminate the compromise in combustion required to burn both volatile gases and solid coal in the same compartment.

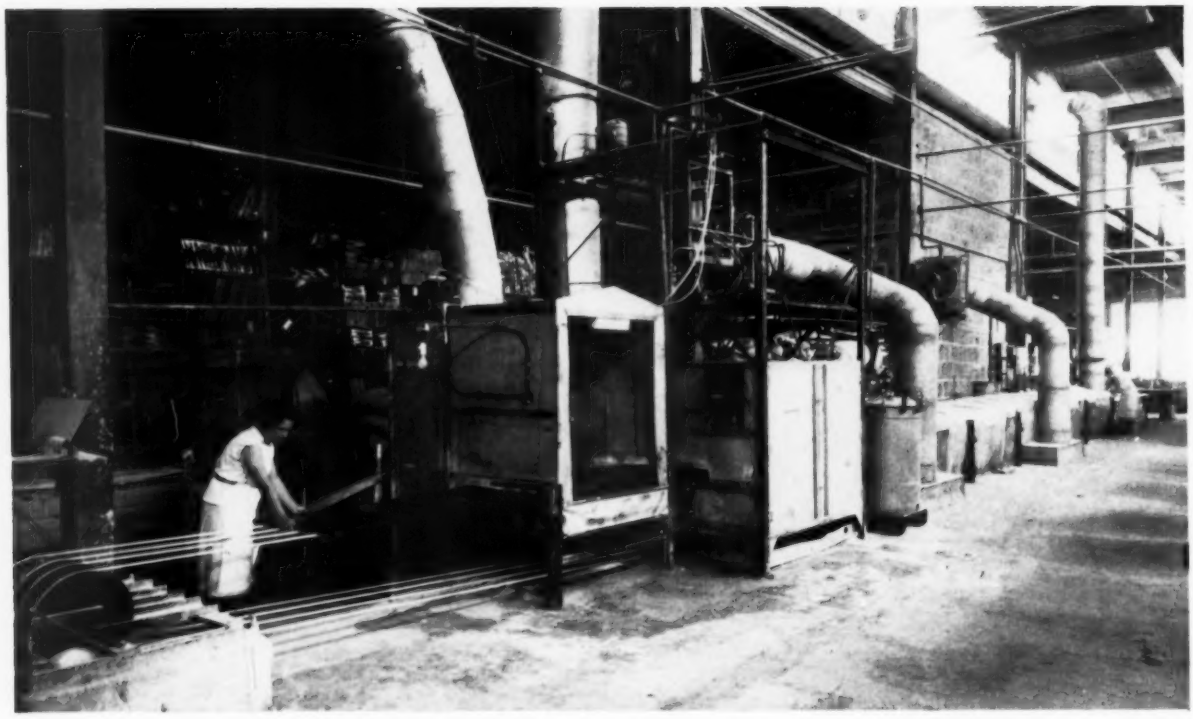
Another study was made of the air volume required. This was done by actually measuring the air entering the combustion chambers of the heaters, determining the correct amount for best ignition characteristics.

Many different models of the new heaters were actually produced, each one with changes indicated by the continued research, before a heater was constructed which seemed to cover the varying requirements for burning all types of anthracite and bituminous coal.

Heating Principle

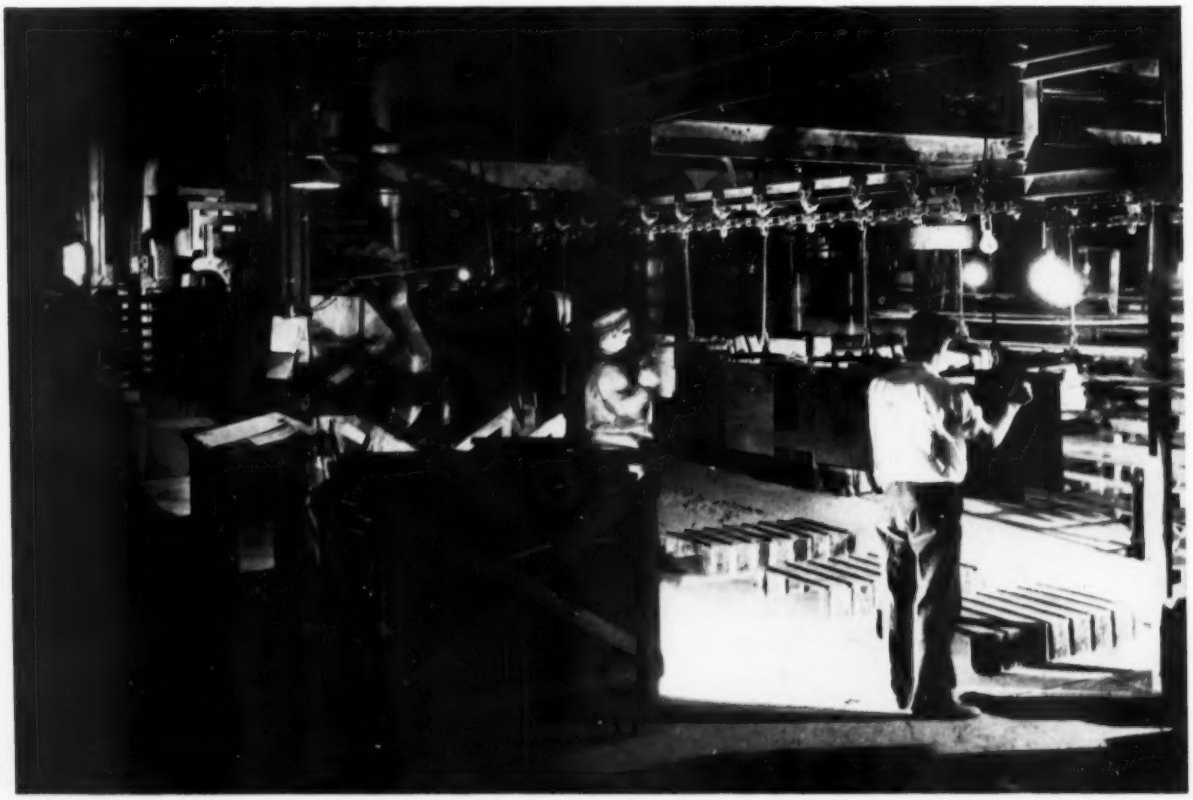
The final heater design was of the magazine type, designed to take cool air off the floor and discharge a high percentage of the heat through circulation instead of radiation. We found it important to employ two separate thermostats. The first is a primary air thermostat operating on room temperature, and the other operates as a secondary air thermostat to admit measured amounts of pre-heated air which we found to be one of the secrets of efficient combustion in this design. The volatile elements or gases

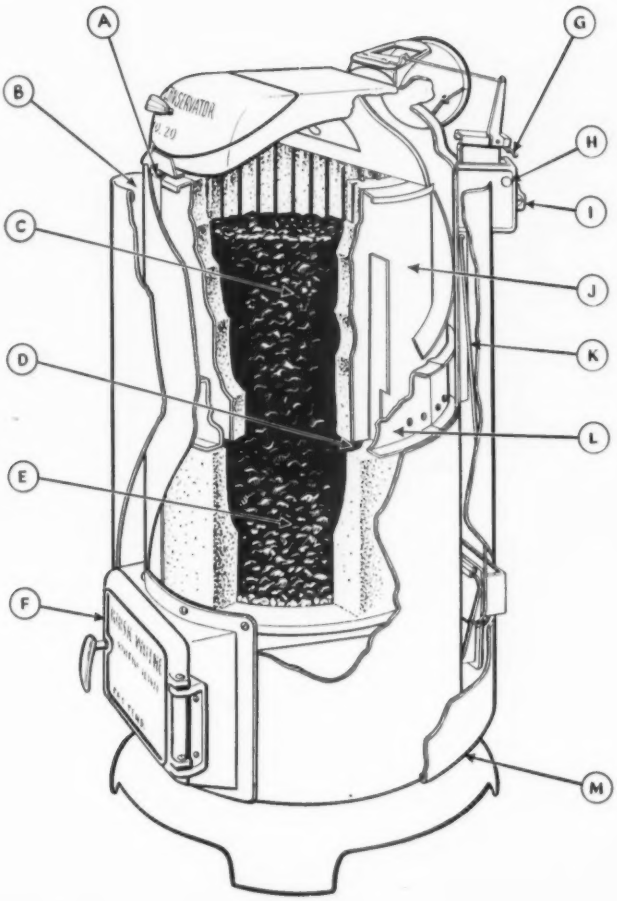
Many large homes such as this one in Villinova, Pa. have depended on coal heaters for auxiliary heat during the oil shortage.



Section of the Caloric Enameling Plant showing the continuous sprayer and dryer line used for all types of flat work.

Loading the chain of a continuous electric furnace in the Caloric plant. All the metal parts for the new type coal burning heater, both cast iron and steel, are fired on this type of equipment.





KEY TO CROSS-SECTION DIAGRAM OF NEW TYPE HEATER

A Air from below grates enters here, forcing volatile elements downward.

B Cold room air that entered at base of casing is heated and emerges here, causing circulating pressure.

C Coal is baked here. Volatile elements driven down.

D Louvres and slits in firebrick ignite volatile elements.

E Coal reaches main combustion chamber as almost pure carbon or coke.

F Air-tight ash pit. All entering air is measured through controls.

G Control clutch disengages thermostat while ashes are removed.

H Primary air thermostat acts on room temperature.

I Temperature regulator dial.

J Volatile elements diverted to achieve thorough combustion.

K Secondary air thermostat admits measured amount of preheated air.

L Volatile elements mix with secondary air from manifold and burn in auxiliary combustion chamber.

M Cool air in house drawn in here to be heated.

from the burning coal mix with secondary air from the manifold and burn in an auxiliary combustion chamber. The coal is not actually burned as such, but it is first subjected to a baking action and when it reaches the main combustion chamber is practically a pure carbon or coke.

A Few Problems

Inasmuch as the heater resulting from our research and cooperative efforts was not available until many months later, large quantities of coal heaters had already been produced and used. Combustion had been improved to a great extent over the old grocery store barrel stove that we all remember, and with the shortage of steel there had come the serious problem of building heaters that would stand up in continued use under a wide variety of operating conditions and still use a limited weight of critical material in their manufacture.

One of the serious problems that had made itself evident in some of the early heaters was that of finish. Plain cold rolled steel and iron had been used in many cases in building the heaters, and it was found that in use deterioration was rapid. This, of course, is no criticism of the heaters or their manufacturers, as it was felt that heat was the principal need and a method of getting maximum heat at minimum cost and minimum use of important metals was the real goal. It soon became known that many thousands of coal heaters would have to be used, and very probably a high percentage of them used over a considerable period of time, as there was no indication of any letup in the oil requirements.

While our newly developed heater was being put through the final test for approval by various laboratories, we were studying the possible shop production requirements. We could readily see it would be impossible for our company to meet the total requirements, and we therefore established a policy of sub-licensing other logical manufacturers (without license fee for the duration of the war) so that production requirements could be more nearly met.

Final Touch

While the prime object from the start had been to get heaters in the field rapidly that would conserve, insofar as possible, the coal supply, there was also the very definite problem of durability. For the heaters going into homes, appearance was also a factor, but naturally had to be made secondary to the factors of conservation and durability. We tried a number of possibilities, including japanning, low-temperature ceramic finishes, etc., but finally decided that the final answer to high heat resistance for inside parts, durability of the exterior, and to the appearance problem, was the use of porcelain enamel throughout. When I mention answering the appearance requirement I naturally refer to minimum cleanliness and appearance requirements

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Females Are

The Practical Sex

. . . Or Post-War Gadgets That Won't Work Had Better Die A-Borning

By Mary Davis Gillies

MEN are the dreamers, the cooker-uppers of magnificent gadgets, but it's women who deliver meals at regular intervals three times a day. It is women who have to deal with the plastic gasket that cracks, the range valve that comes off and the weak spring on the oven door. It is women who face the facts around the house. It is women who will continue to approve or disapprove of household appliances.

For the last six months women have been reading yards of print provided by men—on the wonders to come in the post-war home. If I can judge from the returns on McCall's Kitchen of

Refrigerator. →

he Day-after-Tomorrow Kitchen.

OTO HEDRICH-BLESSING STUDIO

COLOR ILLUSTRATIONS COURTESY McCALL CORPORATION

Tried-and-True Kitchen.

Tomorrow Contest, the ladies are avidly interested in these new ideas. They are following developments but they are keeping their feet on the ground. One woman sized up the situation completely when she wrote:

> "The stove (shown in the Day-after-Tomorrow Dream Kitchen) is unlike anything I know. I wouldn't know how to use it but if it cleans easier, cooks better and keeps food hot until served, I'd be willing to try what seems like a good idea."

The problem presented in the McCall Kitchen Contest involved making a choice between the Tried-and-True Kitchen and the so-called Day-after-Tomorrow Kitchen illustrated. The final returns and tabulations are not available yet but a review of the volunteered 200-word comments and a hand tabulation of a random sample of the questionnaires afford a preview of the final results.

It is already clear that the kitchen contest is not going to follow the pattern of the preceding living room and dining room contests. Of the 13,000 returns on the living room, 5,600 voted for the traditional living room and, believe it or not, 7,500 voted for the modern room. The dining room vote will be about the same. But, surprising as it may seem, many of the traditional group are voting for the Dream Kitchen and some of the erstwhile modern group maintain in an injured tone that they have wanted an immaculate white kitchen for years, that they have been buying bonds to insure possession of one after the war and that nothing, not even a "fancy looking" Kitchen of Tomorrow, is going to cheat them of their long-time ideal and aspiration!

Moreover, the details of both kitchens are being studied carefully and even though women vote definitely (as indeed they have to) for one or the other kitchen, in their written comments a few favor features of both kitchens.

Fish Bowl Kitchens

Perhaps the most exciting controversy centers around the use of glass in the kitchen. There is an almost unanimous approval of bigger and better windows. Permanent glass or tile wall finishes have also aroused enthusiasm, but the runaway vote which comes from voters on both kitchens is for the glass oven. The idea of being able to watch the roast brown has wowed the American cook. A peep-hole of glass won't answer; an entire glass oven like the one illustrated is wanted. But notwithstanding

this volunteered acclaim for a glass oven, in the questionnaire the flat top or table top range received about two-thirds of the vote, and approximately two-thirds would settle for a glass door on the oven.

On the other hand, if any manufacturer thinks he is going to sell glass doors on refrigerators he had better think again. A few quotations will give you an idea of the bitterness aroused on this subject.

> "Since I don't believe any woman can keep leftovers tidy and that dishes and pots and pans can't always match, I would never want glass doors on any equipment in my home."

Here is another one:

> "I don't like the idea of glass refrigerator doors. I don't want people to see the inside of my refrigerator as it is impossible to keep it looking as neat as possible all the time."

Again:

> "The Day-after-Tomorrow Dream Kitchen would be a nightmare to me. I like things put away and out of sight."

None of the women seemed to realize that a glass door on a refrigerator would be so heavily frosted most of the time that the contents would not be visible.

Glass for cupboard doors isn't condemned completely. However, in general, it was agreed that enamel for cabinets was easier to clean than glass, stainless steel or other materials used for kitchen surfaces. As one woman wrote, "I like a porcelain finish and lots of it."

Plastics are recognized as a post-war dark horse. There is frequently written-in comment on plastics but also there is misunderstanding about what can and what cannot be done with this new medium. A few women visualize complete plastic kitchens. Over one-third stated that they would be interested in plastic doors on cabinets and nearly one-fourth expressed a desire for plastic counter tops.

For a material comparatively newly arrived on the kitchen scene, these figures indicate real enthusiasm.

Ice Box Bogies

Even though we know that women have responded with animation and with cash-on-the-line to automatic refrigerators during the last twenty years, they are ready to accept basic changes in design and feel that the time has arrived for making those changes. Hundreds of women complain about the deep, hard-to-get-at refrigerator. In fact over two-thirds of the vote was for the roughly conceived, shallower, wider and higher refrigerator with four doors and separate compartments for frozen foods, ice cubes, dry cold and moist cold, illustrated in the questionnaire.

There is also a general desire for larger refrigerators. One woman explained her desire for more storage in this way:

> "Economics aren't going to change materially in the post-war world. You can still save (even if it's just time) through quantity buying."

Moreover, it wasn't a surprise to find the frozen food question right up in front. There were many explanations on how they would like to have frozen foods handled in the home, including this dream plan which one contestant presented:

> "Instead of the usual refrigerator, I want a battery of heat-controlled storage cabinets along one side of my kitchen. Two units will be deep freeze for storing fresh meats, fruits and vegetables; two units will be mild cold for storing canned foods, and one unit will be a regulation 45° for storing leftovers, butter, fruit juices, beverages and the usual things."

All About Cabinets

Almost two-thirds of the tabulated entries said that they did not have enough cabinets or storage space in their kitchens. At the present time 13 per cent have steel cabinets, the remainder are wood. However, if the present cabinets were replaced, the choice would be this:

Plastic	41%
Wood	33%
Steel	26%

An equal number expressed a preference for carpenter-built and ready-made cabinets.

Door openings for upper cabinets were also considered. For years there have been complaints from women who bump their heads on doors left open. One-third voted for the standard swing door, 50 per cent could see the possibilities of doors which slide, and only 17 per cent voted for the most convenient or roll-up opening.

The vote on counter surfaces was equally interesting and followed this order:

Linoleum	22%
Plastics	16%
Porcelain Enamel	14%
Stainless Steel	14%
Tile	9%
Hard Wood	5%

In addition to the materials listed there was a small write-in vote for glass, plywood, marble, slate, masonite and marbelle.

By far the largest majority voted for white cabinets, half as many voted for a natural wood finish and the only other figure of consequence was ivory. For ranges and refrigerators white and ivory were the high figures.

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Mary Davis Gillies

The author, Interior Decorating Editor of "McCall's Magazine", received her B.S. and M.A. from the University of Washington. Following graduation, Mrs. Gillies taught in the Household Arts Dept. of the University of Oregon. From there she went to the Textile Division, Bureau of Home Economics, Dept. of Agriculture, Washington, D. C.

Mrs. Gillies' interior decoration work in Washington attracted the attention of manufacturers and she went to New York to work for the Gardner Advertising Agency, handling decorating and furniture accounts. From work in the commercial field, she was called to "McCall's Magazine" where she has been decorating editor for the past twelve years.

Mrs. Gillies is the author of two books — "Popular Home Decoration" — William H. Wise & Co., 1940; and "All About Modern Decorating" — Harper & Bros., 1943.

For Fine Enamels

"Century" is the proper word — the true name — for the frits we make. Properly applied and fused on metal, Century porcelain enamels last a century, and longer. And Century frits are "properly applied" very easily. They possess good workability and good firing range. More than this, the Century ground coats, cover coats and acid resisting enamels form a perfect team on which you can depend for consistently satisfactory operation. Millions of pounds of Century frits have given successful operation in both continuous and box type furnaces.

For Quality Enameling

Century offers complete enameling service to those who do not have their own enameling facilities. Our experience in job enameling covers all types of fabricated steel products. Our quality is "tops" and our prices are right. If you want a porcelain enamel finish to last a century — specify CENTURY. Ask us to quote on your next important enameling job.

PORCELAIN
for Cleanliness,
Durability and
Lasting Beauty

Century Vitreous Enamel Company

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Naturally those who voted for the Dream Kitchen were more open minded and as a result there were votes for blue, green, yellow and even red ranges and refrigerators from that group.

Page the Builders

A final point of considerable interest was the vote on floor plans. These plans were included in the questionnaire with the idea of determining the place the kitchen may occupy in post-war building.

Three floor plans were offered. In floor plan No. 1 the kitchen, dining room and living room are all separate rooms. Since this plan represents standard practice, it logically enough received fifty per cent of the vote. Floor plan No. 2 included a separate kitchen but a combined dining room and living room. Floor plans of this type have been on the increase for the last fifteen years and the 33 per cent vote which that arrangement received is about what could be expected. The real satisfaction comes from the 12 per cent vote for the third floor plan which represents a complete first floor open plan with the cooking area only partially separated from the dining and recreation or living area. And, of course, some women couldn't make up their minds which floor plan they liked best.

Some of the actual quotations on these plans are revealing. Repeatedly women explained that they like a kitchen to look like a kitchen. Kitchens, they explain, are the favorite room of the whole family and, as such, shouldn't be abolished. One woman went on to say:

> "A kitchen that is a kitchen is a restful change from the rest of the house."

And in a defensive tone another woman added:

> "When I am through in the kitchen I don't want to have to look at it, or even a piece of it, all evening—not even if it's beautiful."

On the other hand, the women who voted for the Day-after-Tomorrow Kitchen saw the possibilities of open planning on the first floor. They admitted its advantages for the maidless household, for entertaining and child

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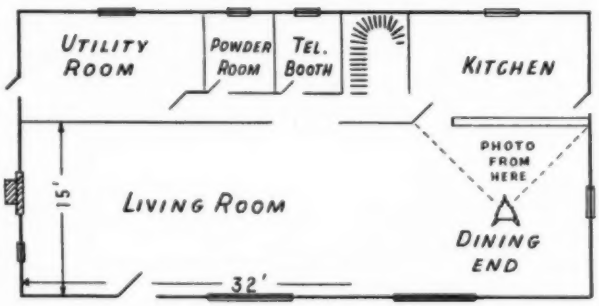
THIS IS A KITCHEN FROM A TYPE THREE FLOOR PLAN

FINISHFOTO



Architect
LAWRENCE D. RANK

An interesting example of floor plan No. 3 described in the accompanying article is represented in this sketch, showing the first-floor plan of the interesting home of the Charles Goddards in Suburban Pittsburgh.

"Windy Hill" comprises an acre of ground at 2400 Ft. elevation. The view from the living room windows is across hills and valleys, a panorama encompassing about twelve miles.

The Goddard home seems to offer an excellent example of plan No. 3, as the dining room and living room are combined and the kitchen is largely open into the dining section above waist level. Both ends of the living room are pine paneled. The "living" section presents a delightful "homey" atmosphere, with book shelves by the fire place and comfortable, "livable" furniture. At the opposite end of the room, in the "dining" end, space for china is provided.

Lighting in the home is both effective and interesting, including cove lighting in the living room, and special lighting provisions for practically every section of the house. This is as it should be, as Mr. Goddard is Vice President of Pittsburgh Reflector Company and has been associated with the lighting industry for a number of years.

During a recent visit to Pittsburgh your editor spent a delightful evening with his friends, the Goddards, and took this occasion to snap the accompanying picture of the kitchen and service bar. (The photo shows Mr. and Mrs. Goddard preparing to serve guests.) Doors open on the kitchen side of the service bar, and counter-high stools pull out for convenience.

Porcelain enamel in this "Type 3" kitchen includes sink and sink cabinets, electric stove, electric refrigerator, and center lighting fixture (indirect lighting).

NEWS

Washer and Ironer Manufacturers to Meet

The Annual Meeting of the American Washer and Ironer Manufacturers' Association is scheduled for the Morrison Hotel, Chicago — date January 19. W. Neal Gallagher, Executive Secretary-Treasurer of the Association reports this meeting to be of more than ordinary importance.

One important purpose of the meeting is to sift the many rumors that have been circulating throughout the industry, and in daily newspapers, concerning the possibility of reconversion by this important group of manufacturers. It is reported to FINISH by authentic sources within the Institute that there is nothing at present to indicate the possibility of immediate reconversion. This subject will, however, be considered in detail at the Annual Meeting. President of the Association is Mr. John M. Wicht, General Electric, Bridgeport, Connecticut.

It is expected that much time will be devoted to hearing the reports of members of the Post War Planning Committee, headed by Roy A. Bradt, Vice President of The Maytag Company. The Post War Planning Committee is broken down into Sub-Committees, each of which has been responsible for the investigation of some specific phase of planning; such as, materials, designs, size and nature of post-war markets, layouts for the home laundry, and advertising, publicity, public relations, etc.

Judson S. Sayer, President of Bendix Home Appliances, Inc., South Bend, Indiana, is Chairman of the Industry's Advisory Committee which serves as a connecting link between the Association and Government Agencies in Washington. It is expected that this Committee will have much of importance to report at the Annual Meeting.

Cribben & Sexton to Resume Stove Production

It is reported the Cribben and Sexton Company are making plans for the resumption of stove production this year. This 71 year old pioneer in the gas range field ceased gas range production in 1942, and went into war production on high explosive shells, armor plate, and airplane assemblies.

Mr. Wilkinson, company president, reports that they still have a $10,000,000 backlog of orders for plane parts running to 1945. This Company, which has just received notification of an Army-Navy "E" award for their services on war production, expects to keep up their good record in connection with war work, and at the same time return to production on gas ranges.

The first stove to be produced will be a four-burner range built to Government specifications. It is the hope of Cribben and Sexton executives that this production may be followed later in the year with a range of standard design, fully equipped.

Range production will, of course, be far below normal production for this large factory, as war production will continue to get first call on materials, equipment and manpower.

A new addition to the R. D. Evans family was announced recently. The new baby boy arrived November 12 — weighed 7 lb., 11 oz. — name — Richard Bauer Evans.

Papa "Bob" had charge of enameling at Newark Stove Company in pre-war days. During the war he has been head over heels in the supervision of important war production work at Newark.

Buettner Honored By Pemco

Pemco Corporation, Baltimore, Md. reports that at the Seventh Annual Dinner of the Pemco Service Society P. J. (Pete) Buettner was presented with a handsome wrist watch by Mr. Karl Turk, Sr., Pemco President, as a fitting token to his 25 years of service with the company.

The Pemco Service Society is a unique organization within the company, and to become eligible for membership it is necessary to spend

10 years or more in the service of the Corporation. "Service" keys are then presented at 5 year intervals. At the dinner four such keys were presented to men who had rounded out from 10 to 20 years of company activity.

Meacham Joins Chicago-Vit Staff

A recent announcement from the Chicago Vitreous Enamel Product Company, Cicero, Illinois, tells of the appointment of F. L. Meacham as Manager of Sales & Service.

The announcement says: "Mr. Meacham was formerly research chemist and metallurgical assistant at the American Rolling Mill Company, Middletown, Ohio during which time he pioneered and developed sheet metal for the application of porcelain enamel. More recently, F. L. Meacham has been with the Frigidaire Division of General Motors Corporation where he held various offices, the last of which was Manager of the War Production Engineering Division, in full charge of all engineering problems in connection with the production of war items manufactured by Frigidaire."

Meacham joined the Sales and Service Division of Chicago Vitreous Enamel Product Company, November 16, 1943.

Word comes from Cleveland that Paul G. Kates, who took leave of absence from Ferro Enamel Corporation for the purpose of working with the War Production Board in the Southern states, has returned to Ferro's employ effective January 1. Mr. Kates will handle the sale of Ferro products throughout the South.

Pig Iron to Be Released

Announcement has been made by the War Production Board that pig iron will be removed from allocation beginning February 1. It was explained by Washington officials that the pig iron output is now in balance with requirements, making the removal of allocations possible. W.P.B., however, retains the right to specifically direct production as required to handle critical cases.

While it is expected that the W.P.B. will continue to keep close check on the situation in this field, the relinquishing of allocation requirements will eliminate the filing of the complicated forms previously necessary. Currently the producer need only file a simplified report on production, shipments and inventories; and no reports will be required from consumers.

NEWS FROM OHIO STATE

What would normally be the June 1944 class was graduated on December 17th. The members of the class are John B. Cahoon, William D. Caldwell, Ted H. Harley, Grant E. Miller, and Hal H. Rice.

Except for three irregulars, the department will have no more students for the duration.

Professor Watts has some war research projects; Professor Carruthers is teaching mechanics; and Professor King is teaching physics in the Army Training Program.

Dick Goble, formerly with the McGean Chemical Company, is on the Ohio State Campus in uniform. He is taking special training in the Army Training Program.

Hofstetter to Head Ferro's Midwest Division

G. W. (Jerry) Hofstetter has joined the staff of Ferro Enamel Corporation, Cleveland, Ohio. According to an announcement from Ferro, they will, within a few weeks, open an office in Chicago which will be headquarters for the Midwest Division of the Company. "Jerry" will be sales manager of the Midwest Division.

The announcement says that this office will not only handle frit sales but all of Ferro's allied items; such as organic finishes, clays, oxides, furnaces, furnace supplies, etc.

"Jerry" is well known in the Chicago Area. Following his graduation in Ceramics at Ohio State University in 1929 he went with Westinghouse Electric & Mfg. Company, Mansfield, Ohio. Following this he was at Seeger Refrigerator, St. Paul for four years, in charge of their enameling operations; and since 1935 he has been sales representative for the Ceramic Division of Rohm & Haas Company, Inc., Philadelphia, Pa.

It is with regret that we report the untimely death of F. J. Buck, known to enamelers as representative for Republic Steel Corporation. Fred's death came as a result of an automobile accident in Chicago on December 18. He died as a result of his injuries on Wednesday, December 22. Funeral services were conducted Monday, December 27, in Maywood, Illinois.

Porcelain Enamel Institute Program Gets Under Way

Several months ago at a meeting of the Porcelain Enamel Institute at Cincinnati your editor, then Chairman of the Steering Committee, established to initiate and coordinate a new program of activity for the P.E.I., had the privilege of appointing the two men who were to head committees for market research and market development phases of the coordinated plan. This plan also involved technical and plant operating phases of enameling for which the heads were established through other appointments.

Mr. Robert J. Ritchey, Asst. Manager, Market Development, Carnegie-Illinois Steel Corporation, was appointed to head the committee whose responsibility it was to conduct a complete research program, which was considered essential to the development of a satisfactory market development plan. Committee members include the following:

W. H. Brett, Alliance Porcelain Products Co.

E. G. Walbridge, Erie Enameling Company

Milton Gallup, Porcelain Metal Products Co.

Edward Mackasek, Beaver Enameling Company

R. A. Dadisman, Manager, Market Development Division, The American Rolling Mill Co., was appointed to head the planning committee for an Institute Market Development Program. His committee consisted of:

B. F. Birdwell, Porcelain Metals Corporation

E. A. Headland, The Enamel Products Company

J. Fred Ingram, Ingram-Richardson Manufacturing Co.

H. D. Thompson, Chattanooga Stamping & Enameling Co.

Plans Approved

That these two men and their committee did an excellent job in their respective assignments is evidenced by the fact that at a meeting of the P.E.I. Executive Committee in Pittsburgh on Tuesday, November 9, 1943, the men were highly commended on the results of their efforts, and the resulting Market Development Program was whole-heartedly approved.

The detailed reports on the Market Study and the Marketing Program are too comprehensive to be included here. Suffice to say that the study of various past and future possibilities for such porcelain enamel markets as agriculture, household, institutional, commercial, construction and industrial, were all included. Likewise, the Market Development Program takes into consideration all important markets and gives a detailed plan for approaching each.

The plan includes a series of booklets to assist design engineers and others on whose responsibility the proper use of porcelain enamel rests with relation to finished products. Architects are also to be included in the educational program.

One important purpose of these booklets will be to assist the product manufacturer in the selection of the proper finish for his products and to properly design such products for porcelain enameling where this lifetime finish is indicated. Plans also call for an extensive direct mail program and, to some degree, the use of industrial magazines which reach potential users.

The program as approved is being sponsored by fifty-three companies in the porcelain enameling industry.

Current Program

At the Pittsburgh Meeting the Institute Executive Committee appointed an "Action Committee", consisting of Dadisman, Chairman; and Ritchey; P. B. McBride, Institute President; and Charles Pearce, Institute Managing Director, as members. This Action Committee held a meeting in Cincinnati on December 3, to discuss the problems involved in getting under way on the comprehensive program that has been approved. It is planned to add the services of a competent Development Engineer to the Institute Staff. The services of this engineer would be used in the preparation of the technical and practical handbooks, which are considered essential as a background for proceeding with the balance of the program.

It is gratifying to see such a plan of industry activity getting under way as it should do much for individual manufacturers supporting the program and for the industry as a whole.

FINISHFOTO

Ray Dadisman and Bob Ritchey discuss the results of their work on the P.E.I. Program.

Chicago Enamelers

First to Become Active

THE Chicago District Enamelers' Club held its first get-to-gether in recent months in early November in conjunction with the Chicago Section of the American Ceramic Society at a dinner meeting held at the Electric Club in the Civic Opera Building, Chicago, with nearly one hundred in attendance. A good representative group was present including members from Rockford, Milwaukee, Kendallville, Detroit, Urbana, Grand Rapids, Battle Creek, Cleveland and Kankakee.

The meeting was presided over by Hugo Fillippi, President, Chicago Section A. C. S. Executives of the Enamelers' Club present were E. H. Shands, Roper Corporation, President; E. E. Howe, Chicago Vitreous Enamel Product Company, Vice President; and F. E. Hodek, General Porcelain Enameling and Manufacturing Company, Secretary. The section of the program of particular interest to the enameling group included a paper by Wayne Duvall, Chicago Vitreous Enamel Product Company, entitled "Reduction in Post War Enameling Costs", and three reels of interesting color movies by Prof. A. I. Andrews, University of Illinois, covering his tour of National Parks.

Mr. Duvall's paper suggested that management, in striving for a reduction of enameling costs, would do well to concentrate efforts on the parts to be enameled prior to the application of the enamel. The first step along this line should be the proper selection of the steel for the particular forming or drawing job; and of equal importance is the proper design of the parts. It has often been proved that changes made to satisfy these two considerations, even though of higher initial cost, have resulted in reduced cost of finished product, principally through lower enameling rejections.

When proper design and the selection of the proper steel have been fulfilled, the one thing that, more than any other, affects enameling rejections is the preparation of the steel for enameling. Reference was made to work done by G. W. Dykstra (Great Lakes Steel Corp.) on the use of soluble drawing compounds, and it was suggested that thorough study of this work be a "must" requirement of all enamel shop managers. Reference was also made to the work of E. H. Shands (Roper Corp.) on the use of treated water in the pickle room.

Hugo Fillippi, President, Chicago Section American Ceramic Society.

Duvall stressed particularly the need of better cleaning of the metal prior to pickling and suggested, as a means of accomplishing this, the cleaning of the ware in the press room immediately after forming and before welding into the assembly.

Cleaning immediately after forming would permit easier removal of the lubricant while it was still fresh, and before it had set for considerable time and had a chance to oxidize. This cleaning before welding would also provide improved welding because the surfaces would be free of oil. This cleaning process should be a preliminary procedure, and should be followed by good cleaning and pickling procedure before enameling.

The important considerations in good metal preparations were summarized as follows:

1. Use soluble drawing compounds or die lubricants.
2. Remove all oil and grease from ware before welding into assemblies or delivery to enamel shop.
3. Where production warrants, use continuous cleaning and pickling.
4. Provide two alkali cleaning baths to be used in succession.
5. Use a hot rinse after cleaner, following by cold rinse.
6. Use pressure sprays following rinses on continuous pickling lines.
7. Provide for control of degree of acid attack to insure proper etching of stock.
8. Insure thorough removal of acid and iron salts after pickling.
9. Install nickel bath under suitable control as a means of improving enamel firing range.
10. Provide thorough rinsing after nickel treatment before neutralizing.
11. Neutralize the ware under conditions suitable to the job. In some cases, the need of cyanide may be indicated. On continuous lines provide at least two neutralizer tanks to insure proper neutralization.
12. Provide water softening if hardness is above 100 parts per million.
13. Dry ware quickly with ample circulation of air.

The highlight for the A. C. S. section was a talk by J. J. Svec, of Ceramic Industry, in which he compared five outstanding vitrified, translucent chinas of the world. The chinas discussed included American, Belleek, Bone, European and Oriental.

Second Meeting Scheduled

Response to this first call for the Enamelers' Meeting in Chicago was so favorable that the officers of the Club have decided to have at least one additional meeting in the near future. Present plans call for the next meeting to be held in the Basement of the New Field Building, 35 S. LaSalle Street (at Adams), Chicago, on Saturday, January 15, at 1:00 P.M.

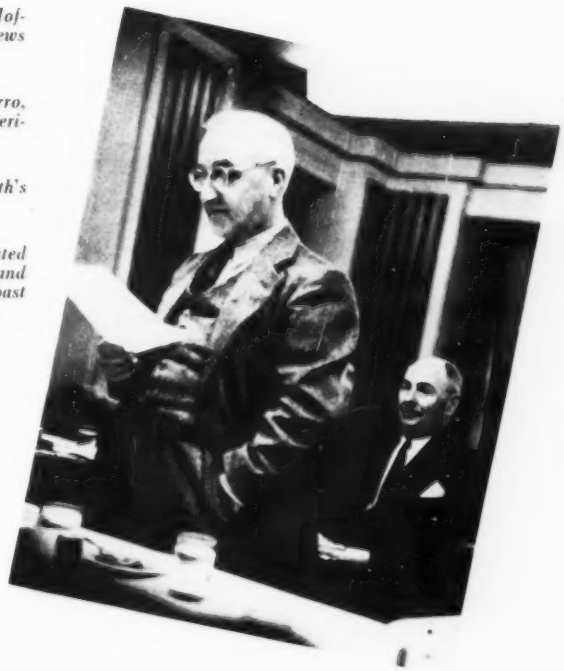
E. H. Shands, President, Chicago District Enamelers' Club.

Top Left: Ferro's "Jerry" Hofstetter and "Cliff" Andrews of U. of I.

Top Right: Wilson of Ferro, and "Bob" Long of American Porcelain.

Center Left: A. O. Smith's Wayne Deringer.

Center Right: Consolidated Feldspar's Hansen speaks, and Jack Hyland of Pacific Coast Borax Company looks on.



Left: Geo. Greene of General Porcelain Enameling & Mfg. Co. listens attentively to an after-dinner speaker.

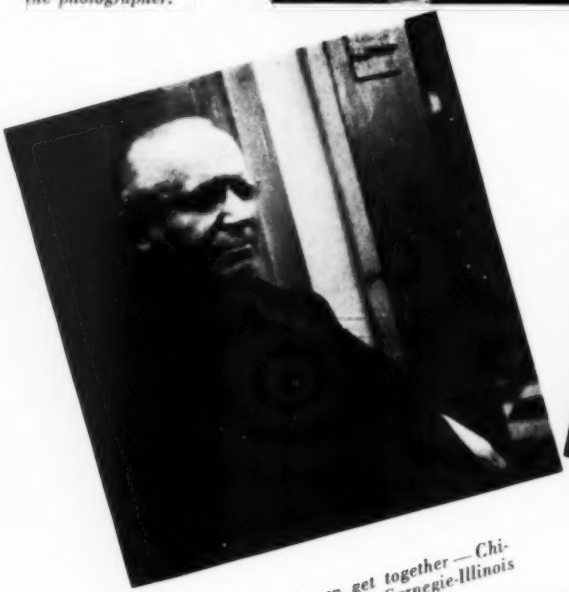
Right: Chicago Vit's Wayne Duvall and Dr. A. I. Andrews of the University of Illinois.

FINISHPHOTOS

Right: Ferro's Al Haessler dines with Paul Gerdes of A. J. Lindemann & Hoverson Co.

Below: Maker of Ceramic portraits, J. A. Dedouch says, "What's this?" to the photographer.

Below: "Cliff" Knight of McCray Refrigerator and "Joe" Boehler of R. G. Bock, Engineers, Chicago, flash "ear to ear" smiles for the camera.



This time the technical men get together — Chicago Vit's Roger Fellows and Carnegie-Illinois Steel's Rudyard Porter.

Dwight Bennett, formerly of Mellon Institute — now on Government Research work at U. of I., with "Cliff" Smith of Chicago Vitreous.

FINISHFOTOS

Proved performance

Lufax

OPACIFIER FOR ENAMELS

TO meet the requirements of various enamels and their application, several types of LUFAX zirconium opacifiers are being widely used throughout the enameling industry. Each has particular advantages in certain applications. Each has proved its superiority in successful performance.

LUFAX 20A and 20B: Both have wide application for use in porcelain enamels, developing high opacity and gloss. Users have found them the most satisfactory opacifiers for all-round application, including opaque, super opaque and antimony-free enamels.

LUFAX 435: Develops extremely high opacity in both antimony and antimony-free enamels. It is a most effective opacifier for enamels requiring the highest opacity at lowest cost.

LUFAX 500: Is especially effective in acid-resisting enamels, developing very high opacity and excellent gloss and maintaining the high acid resistance of the enamel.

LUFAX opacifiers are technical grade zirconium oxide compounds which have wide use in other ceramic applications.

EVERY LUFAX PROVIDES THESE ADVANTAGES:

- ✓ Greater thermal shock resistance.
- ✓ Greater resistance to chipping.
- ✓ Truer, whiter color.
- ✓ Better working properties.
- ✓ There is a LUFAX for all types of frits—antimony-free or antimony-bearing, regular or acid-resisting.

LUFAX is a trade mark, Reg. U. S. Pat. Off

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Manufacturers of Chemicals including Plastics . . . Synthetic Insecticides . . . Fungicides . . . Enzymes . . . Chemicals for the Leather, Textile and other Industries

News from the University of Illinois

By R. L. Cook

The Department of Ceramic Engineering at the University of Illinois started the new fall semester with a greater enrollment than had been anticipated. Not only the civilian students but a considerable number of Navy V-12 trainees are now taking the regular courses in the Department of Ceramic Engineering. Since many of the ceramic schools in the country are not giving the Navy V-12 program, students in ceramics are being transferred by the Navy to the University of Illinois where such a program is being given. With the start of the Navy Semester the first week in November, seven Navy V-12 students were transferred from the Georgia School of Technology to the Department of Ceramic Engineering at the University of Illinois. All seven of these students had started their training at the New York State College of Ceramics. In addition, the Navy transferred two other students, one formerly from North Carolina State and another from Virginia Polytechnic Institute.

The student enrollment in the Department of Ceramic Engineering at the University of Illinois now presents quite a cosmopolitan group, as it includes students from Ohio State University, New York State College of Ceramics, Rutgers University, North Carolina State, Virginia Polytechnic Institute and Iowa State University. In addition there is one student in the Department of Ceramic Engineering from Iceland.

Research Projects at the U. of I.

With the start of the new Fall Semester several additional appointments have been made to the staff of the Department of Ceramic Engineering at the University of Illinois to work on the numerous cooperative research projects that have been established.

The Barium Reduction Corporation has established a research project to study and investigate the uses and role of strontium compounds in the field of ceramics. Howard R. Swift, B. S. in Ceramics, 1940 and M. S. in Ceramics 1942 has been appointed as Special Research Associate to carry on this investigation. The project is under the direction of Dr. Harman.

STUDENTS ENROLLED IN THE NAVY V-12 PROGRAM

Bowman, Robert	New York State College of Ceramics
Hoffman, Lewis C.	" " "
Bodian, Lewis L.	" " "
Deyerling, Carl L.	" " "
Greenspan, LeRoy	" " "
Roberts, Mervin F.	" " "
Young, Robert W.	" " "
Steele, William	North Carolina State
Williams, Chas. A.	Virginia Poly. Inst.
Bachman, Charles D.	Rutgers University
Bowers, Donald J.	Ohio State
Fuller, Lee R.	Ohio State
Healy, James H.	University of Illinois
Prentice, William J.	" " "
Durrant, John M.	" " "
Klimboff, Morris	" " "
Meid, William J.	" " "

CIVILIAN STUDENTS

Asgeirsson, Haraldur	Iceland
Browdy, Howard	
Clausen, Harvey Wayne	
Goluliski Hillard Wm.	
Griffith, James Dell	
Hamer, Donald Wilson	
Hendrix, Paul May	
Hutchinson, Gale Jr.	
Jankowski, Joseph L.	
Johnson, Gordon	
McCreight, Louis Ralph	
Moore, Raymond	
Murphy, Edward Paul	
Wilkinson, Jack Lee	Transferred from Iowa State

The National Development and Research Committee has set up a joint project between the Department of Physics and the Department of Ceramic Engineering to carry on an investigation which is vitally concerned with the war effort. Prof. R. K. Hursh has been appointed as Technical Representative on this project. Louis M. Doney, B. S. Ceramics, 1940, has also been appointed as Special Research Associate on this project. Mr. Doney until his appointment to this position was associated with the American Lava Corporation at Chattanooga, Tennessee.

The United Clay Mines have established a cooperative research project that is concerned with the investigation and suitable use of clays in vitreous enamels. This particular project is under the direction of R. L. Cook.

The Ohmite Company of Chicago, Illinois, has recently established a cooperative project for the investigation and study of the uses of special ceramic bodies. Dr. Harmon is directing the work on this project. Eugene D. Lynch, B. S. Ceramics, 1943, has been appointed Special Research Assistant on this project.

These various projects enumerated above along with the Army Air Forces project and the Enamel Utensil Manufacturers' Council investigation have brought the number on the teaching and research staff of the Department of Ceramic Engineering to the highest total in the history of the Department.

Ralph Bevis to Manage Buenos Aires Plant

The announcement has just been received that Mr. Ralph Bevis has been appointed manager of the Branch Plant in Buenos Aires, Argentina of the Ferro Enamel Corporation. Mr. Bevis is a graduate of the Department of Ceramic Engineering with a B. S. in Ceramic Engineering in 1933 and a M. S. in Ceramic Engineering in 1934. In 1937 he was transferred from the Research Staff of Ferro Enamel Corporation, Cleveland, Ohio, to Ferro Enamel, S. A., Buenos Aires and placed in charge of the technical control and service. His enamel service duties have necessitated frequent visits to the neighboring Republics of Uruguay and Chile and, as in Argentina, his training and experiences in the enamel field have immeasurably assisted in the rapid development of the porcelain enameling industries of these countries.

To the man who thinks of *Tomorrow* while doing his job *Today*

• To the man who is thinking ahead—planning the items he will manufacture to relieve the heavy backlog of consumer demand for washing machines, ranges, refrigerators, table tops, drain boards, water heaters, signs, stoves, architectural pieces and countless other products—Republic offers a tried and proved base for vitreous porcelain enamel—Toncan Enameling Iron.

This enameling stock is consistently easy to work and weld by all methods. Its surface structure is highly uniform—with the affinity for enamel which means a tight, flawless surface.

Toncan Enameling Iron is especially processed to meet varying requirements. It can be made to take the deepest draws without cracking—without "wrinkles" or strain lines.

It can be processed to possess the non-sagging and non-warping qualities essential to the repeated firing of large panels and flat work.

Or, when both deep drawing and non-sagging properties are desired, they can be combined as required.

Whatever your needs in enameling stock, Republic has the answer. And Republic metallurgists—experienced in both irons and ceramics—are ready to help you.

REPUBLIC STEEL CORPORATION
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Berger Manufacturing Division • Culvert Division
Niles Steel Products Division • Steel and Tubes Division
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Republic
TONCAN ENAMELING IRON

PHOTO OF THE MONTH . . .

It is the hope of every producer of enameled products that in the not too distant future scenes like this will be common in every producing plant — that the war will have run its course, and that our plants will again be busy on the production of civilian products.

This photo, by Hedrich-Blessing Studio, was taken in the plant of Vitreous Steel Products Co., Nappanee, Indiana.

Will We Have

one-coat Porcelain Enamel Finishes

THERE has been some discussion in the industry concerning the possibility of obtaining the long desired application of cover coat enamels directly to the base metal as a result of wartime and post-war laboratory research. That this development is to be desired would be questioned by no one in the industry. On the other hand, to assume that this result will be obtained would seem to be a fallacy without first having the assurance of those largely responsible for the necessary research and development activity.

To Finish:

"In regard to the future of white ground coat and one coat, one burn pastel colors directly on the steel, it is our opinion that such developments in the porcelain enamel industry are inevitable. As to just how soon these will become commercial depends on many circumstances, some of which are out of the control of the frit manufacturers. Close cooperation between the frit manufacturers, the steel companies and the enameled products manufacturers will shorten the time between the laboratory and their successful commercial development.

"Our customers have been using successfully for some time our one burn, walnut, mahogany and similar enamels. The white ground coat and light colors will follow as a matter of course."

Signed: G. H. McINTYRE
Director of Research
Ferro Enamel Corporation

To Finish:

"Much study and work has been expended, over the past two years particularly, by some of the steel, frit, and enameling companies with the view of applying white porcelain enamel directly to the base metal and thus obtain a true one coat porcelain enamel finish.

"This work, to our knowledge, is not yet out of the laboratory stage, hence a definite statement cannot yet be made as to how the most satisfactory ideas, so far advanced, will function under operating conditions.

"The results of laboratory work are highly encouraging and indications are that the satisfactory application of white enamels directly to the base metal can be obtained. However, much work remains to be carried out before any of the products, so far advanced, are proved to be satisfactory."

Signed: F. R. PORTER
Ceramic Engineer
Inland Steel Company

To Finish:

"It long has been the hope of the entire enameling industry that the day would come when it would be possible perhaps to eliminate ground coats and get thinner applications of enamel, and at the same time obtain a finish more perfect and blemish free than is now possible. The many experiments being conducted in this direction are promising, but there is strong evidence that it is a three-sided problem and will not be solved in its entirety by producing an enamel of unusual characteristics, or a steel that is perfect, or the development of new processes or improvements in present ones.

"Enamels, and steel, and processes will be improved; but to get the full benefit of these, new standards of precision will have to be accepted as a general thing.

"An understanding on the part of the enameling industry and those supplying it, that improvements from here on will depend upon everyone striving to do his job better will help immeasurably to bring about the achievement of new standards of performance and a vastly improved product."

Signed: RICHARD H. TURK
Executive Vice Pres.
Pemco Corporation

applied directly to the base metal?

FINISH knew that much work was being done in an effort to eventually reach this Utopia of enamel finishes, and we felt certain that our readers would be interested in the opinions of leading technical men. Inasmuch as the frit manufacturers and steel producers represent two groups primarily interested in this development we invited the Directors of Research of each of the steel and frit producers to voice their opinions. The first returns in from this request are reproduced here for FINISH readers.

To Finish:

"Replying to your letter of November 29 with regard to Current interests in one coat porcelain sheet steel enamels, may we say that this trend is stimulating.

"In our continuous daily workings, frit manufacturing, enamel processing, research and development, association meetings, publications, etc., we are constantly on the alert to observe any factors which influence in any way successful porcelain enameling. We believe this practice is universal amongst enamelers and feel that it has definitely improved our enameling techniques.

"Concentrated efforts may develop the white porcelain one-coat finish into a successful realization; we offer our fullest cooperation."

Signed: GEORGE SIROVY
Vice Pres.
Century Vitreous Enamel Co.

To Finish:

"Replying to your request of November 30 for a statement on single coat white porcelain enamel on flat-rolled steel, I can say that the realization of such a development will come first through finding special frits with wider ranges of satisfactory performance in the enameling operation, with considerable changes in the enameling procedure, particularly with greatly increased rigidity of control in the enameling operation, and with the development of steel that has considerably improved enameling characteristics over that which is available at the present time. While small laboratory results look hopeful, to our knowledge no one of the three elements mentioned above is sufficiently advanced to indicate commercial use. Nothing can be said now as to when commercial realization of single coat white porcelain enamel may be expected."

Signed: ANSON HAYES, *Director*
Research Laboratories
The American Rolling Mill Co.

To Finish:

"Assuming that an enameling stock can be produced in quantity that will be free from the boiling always encountered in the past with opaque white enamels applied directly to metal without a ground coat, we are still faced with the problem of securing adherence between the enamel and metal. Any treatment of the metal to promote adherence, such as etching of the surface or the deposition of an adherence-promoting metal such as nickel, if uniform results are to be secured, is inherently dependent on presenting an oil-free metal surface to the etching or nickel depositing bath.

"Recent work has indicated that the attainment of such uniformity requires an entirely new concept of what constitutes a clean metal surface. For example, our former standards of oil removal for enameling purposes, and probably those of the plating industry, are wholly inadequate to meet the exacting conditions necessary to secure adherence of opaque white enamels to enameling iron."

Signed: B. T. SWEELY
Director of Research
Chicago Vitreous Enamel Product Co.

1944 Looks Brighter

By Henry H. Morse • VICE PRESIDENT, FLORENCE STOVE CO, GARDNER, MASS.

I HAVE never been in a jungle of any kind, but I suppose that if a person were to walk for a long time through a jungle that was extremely dense, with venomous snakes trying to bite him, and chattering monkeys in the trees hurling cocoanuts at him, as I am told they do, and then should gradually approach the edge of the jungle where it was possible for small bits of filtered sunshine to reach him, he would feel much relieved, and he would go on (unless his strength was entirely exhausted) with a feeling of hopeful exhilaration.

Early Problems

We started in on the other side of this jungle very gradually, on July 18, 1941, at a meeting that was held in the Shoreham Hotel under the direction of Joseph L. Weiner, and presided over by Dr. Arthur Burns (Former Director and Assistant Director respectively of Office of Civilian Supply). We learned a good deal about ourselves at that time. We learned that the stove manufacturers were hoarding steel even though some of us were letting out employees because we didn't have any material.

We learned that the labor division of OPM was interested in the industry's thoughts as to how labor could be diverted to defense production even though, in many of the towns where our factories were located, our employees were on relief.

This meeting was more valuable to us than we realized at the time because it gave us, or should have given us, an insight into mental processes with which we were not familiar, but which we were destined to encounter more or less in the immediately succeeding months of that year. Fortunately, that kind of thinking didn't persist in large quantities for any great length of time. Men who thought and talked as we do were gradually brought in, and people who regarded business enterprise with abhorrent suspicion were gradually removed to posts where at least we did not come into direct contact with them.

We proceeded through the jungle very slowly. It's nearly 30 months now, and we haven't seen much light, but I submit that there are faint rays coming through the branches even if we have to use a little imagination to see them, and this gives us all new courage to go on.

FINISHFOTO

Mr. Morse delivering this keynote address at Cincinnati Stove Convention.

Perhaps some of you who know me best will accuse me of an unwarranted optimism. I know I have a failing in that direction. It is congenital and incorrigible, and I can't help it — "hope springs eternal in my breast; I never am but always to be blessed." I can only say that so far as I can remember, my optimism has been justified in the majority of cases. It hasn't often betrayed me, and it has spared me a lot of worry. So if optimism is what we need to make this picture look brighter, let's indulge ourselves in a little and see just what some of the rays of sunshine that are coming through the branches really are.

American Perspective

In the first place, we might say that our journey, so far, has not been so bad as we think it has. It seems pretty terrible to us now, but in a few years we shall look back on it with a better perspective. A certain percentage of our trouble has been emotional or psychological. We are Americans. We don't like dictatorship. Things that are accepted as a matter of course on the other side of the Atlantic gall us most terribly even though we know deep down in our hearts that they are necessary. The American likes to have the rules under which he lives spring from the bottom. He likes to see them rise like cream in the jug, and this has been characteristic of the American for a good many years.

This fondness for home-made laws goes back 300 years. In 1620 the Pilgrims assembled in the cabin of the Mayflower and drew up a compact that was followed by laws that were severe, and strict. You and I wouldn't like to live under the laws of Plymouth, but they were accepted by the Pilgrims because they were debated and voted on, and no one in America objects to the will of the majority. We have a good illustration of that in the New England town meeting. It is a tremendously inefficient method of government; the ordinances passed in the various towns in New England are frequently unwise, unreasonable and sometimes absurd, but the people accept them because the citizens of the town, assembled at their own town meeting, have discussed them and voted on them, and it is easy for Americans, once a question has been discussed,

to abide by the decision of the majority.

On the other hand, Americans resent dictation no matter how necessary they know it to be. It is the method that they object to, the handing down of some regulation from some authority above, and this too has always been true. In 1770, with the air full of rebellion, the people of Boston doubtless knew that they were better protected with British troops in the town than they were without them, but after the Boston Massacre, in which the troops handled themselves remarkably well, the citizens demanded that the troops be sent back to Castle Island and kept out of Boston.

The colonial leaders knew, in 1773, that England was spending much money in the defense of the colonies and that it was fair that she should collect taxes in partial reimbursement, but when tea bearing the tax was brought into Boston Harbor, the chests were split open and the tea dumped into the water. No one doubts the right of the federal government to impose taxes, but every one rather admired Henry Thoreau who spent a night in the Concord jail rather than to pay a tax to which he objected. These are idiosyncracies of American nature, and they are just as potent today as they have been in the past, and a great deal of our objection, and, I might almost say, resistance to some of the restrictions that have been placed upon us are due not so much to the nature of the restrictions as to the omniscient attitude of those people in high places who handed them to us, and in this we were undoubtedly unwise, but no more unwise than any other group of Americans under the same conditions.

First — the War

It should be said at this time that the attitude of stove manufacturers toward the war has been exemplary. The officers and trustees of the Institute have argued with government people repeatedly as to how a thing might best be done, but at no time have I heard any stove manufacturer urge anything because it was good for the stove business. The members of the Institute have been always aware that a war was being fought, always eager to make every contribution to the success of the war, and always zealous to provide for the public. The absence of any manifestation of selfishness at the discussions has been outstanding. First has come the war; second, the public, and seldom a thought, so far as I can discover, of the stove industry.

Three Burdens

During this journey through the jungle, stove manufacturers have borne three burdens, and many minor inconveniences. The three burdens have been limitation on production, including concentration; price control and rationing. The problem has been to get permission to make the appliance; to get a price that would cover the cost of production, and distribution; and then work out some plan of distribution that would not too thoroughly destroy the manufacturers' trade connections. It is proper to point out that in regard to the limitation order we have made remarkable progress.

It seems like a long time ago that one of our members said to Mr. Hammersley (former director of Plumbing & Heating Division — O.C.S.) "If you pursue the course that you propose, every woman in America will stand up and shout at you for a stove," and Mr. Hammersley replied, "When she does I shall shout for tanks." It seems a long way back to May 1, 1942, when the first L-23-c order was given to us by Mr. Timmis (former director of Plumbing & Heating Division — O.C.S.) over our strenuous opposition. We tried our best to show the government people that the public would not have the minimum quantity of cooking stoves and heaters required if the order were allowed to stand as then written. In those days stove manufacturers were suspected of having selfish motives. The government people thought that it wasn't possible for a group of business men to detach themselves from their accustomed viewpoints and judge a question disinterestedly, and it was supposed that if we were given less than we asked for, there would still be margin enough to provide for the public. The matter worked out just as the stove manufacturers had predicted, and we came down to last fall with such a manifest shortage of heaters that an emergency was recognized, and manufacturers were told to forget the limitations of L-23-c as then written and produce heaters.

After that experience, it was recognized by the War Production Board that L-23-c needed to be amended, and by the following spring we were so well known to the people in WPB that the officers of our Institute were invited to write a revision of the order, and the order that we now have, L-23-c amended, contains many of the major suggestions made by the officers of the Institute.

There are still some things about the order that we don't like. The public isn't getting exactly what it should have, but I think that there is a decided tendency to further liberalization of the order. Brass valves for gas ranges are permitted; thermostats and thermometers will follow; very likely other changes will come, changes that are just and that are positively in the interest of the public rather than in the interest of the stove manufacturer.

I can't pretend that we have made the same amount of progress with pricing regulations. In fact, we probably have gone backward a little with the adoption of a new Maximum Price Regulation No. 64, because our goods are priced entirely on direct costs and you all know that indirect costs during the war period have advanced out of proportion to the direct costs. Stove manufacturers do not want inflation; they do not want big profits; they would be satisfied

EDITOR'S NOTE

Appliance manufacturers of all types should be interested in reading Mr. Morse's story of the experiences of the stove industry in connection with its cooperative war-time activity and Government contacts.

with a modest profit for the sake of keeping their trade-marks before the public. I have recently had some experience with this new Maximum Price Regulation No. 64, and it is easy to imagine that it might result, in certain cases, in discouraging production of stoves.

There is also imminent, and as close as the sword of Damocles, a plan to set fixed retail prices on gas ranges. Naturally, we don't like this, partly because we fear that once more we are being subjected to an experiment as we were in the concentration of production and, secondly, because the setting of retail prices on the basis of a fixed markup, plus transportation costs, might very well lead to a zoning of distribution and to a control that might continue after the war, and is not consonant with the idea of free enterprise and open competition.

Rationing Order Improved

When the Rationing Order was first promulgated in its present form, we were badly alarmed. We did not hesitate to call it unworkable and a hindrance. Since that time a number of modifications have been made and today the order is serving the requirements of the public better than it did at first. Even now there are many things in it that in the opinion of most of us might well be removed, and I believe that as experience with the order increases, the order itself will be further amended without destroying the purpose of the order, namely, to make the available stoves accessible to the people who need them most.

Competitors Cooperate

One of the most encouraging developments during the last 30 months is the better understanding that has grown up among the manufacturers themselves. As we have wrestled with the problems that the various orders have presented, we have come to know one another better. At the beginning of the defense era we were rather suspicious of one another as competing manufacturers are likely to be. We were rather slow to give one another the benefit of the doubt, and rather eager, in our search for hidden motives. Today we respect one another. We know that our competitors are the same kind of people that we are, that they are substantial citizens in their own communities, and that they are the kind of people that have made free enterprise successful in this country. It is possible for us to get together on any reasonable proposal and to work together for what is good for the nation, or good for the consumer, without undue thought of how it may affect us or the companies that we represent. This is a gain that will carry over to peacetimes and will make the stove business cleaner and more wholesome for years to come.

Washington Cooperates

Better appreciation of civilian needs has developed in Washington. There is nothing to be gained by raking over old coals, but there was a time when it was estimated in Washington that the public could survive with an exceedingly small quantity of new stoves and heaters. The fallacy of that belief was exposed a year ago, and within the last few months there has been evidence of real concern on the part of Washington people to provide the public with what it actually needs, not only has material been allocated for the production of civilian stoves and heaters, but manufacturers have been urged to hasten production. They have been assisted in procuring materials and purchased parts, and it is evident that today the Office of Civilian Requirements is just as eager to see the necessary number of stoves and heaters made as are the stove manufacturers themselves.

Very possibly the stove industry should not have been concerned with the question of civilian supplies, but after a man has been connected with an industry for a certain number of years he knows what the public expects of that industry, and then seeing himself unable to fulfill what he regards as an obligation to the public, he just can't help getting interested in the problem.

Better Coordination

Our industry suffered severely for lack of what we term a "coordinator". We were operating principally under three orders: The limitation order, the pricing regulation, and a rationing order. It was thoroughly possible that any one of these orders might be reasonable and fair in itself, but might present big hardships in its incidence with one of the other orders, and sometimes with both of them. This was a matter that was almost impossible of solution so long as the Plumbing and Heating Section of WPB, the Rationing Branch of OPA, and the Pricing Branch of OPA preserved absolute autonomy.

The need was felt for some overall authority who could look at the three orders at the same time and see not only that each order was good in itself but that it was good when taken in conjunction with the other orders. We have been told that a man cannot serve two masters, and verily we found it difficult to serve three.

It is now believed that our prayer for a coordinator, although it has not been answered in exactly the way that we wished, has been heard, and there is closer coordination among the three agencies that govern us than there has been in the past, and I am convinced that this is going to continue, that orders will be issued by one agency only when they are in conformity with orders already issued by another agency.

Materials Supply Looks Better

It seems to me, without any exact knowledge, that we have today a better supply situation. At the beginning of 1942 we were practically unarmed. We had a comparatively small number of men in the training camps. Our air force was largely training planes, and a large portion of our navy had been sunk at Pearl Harbor. Our adversaries were the two nations that had devoted themselves to preparation for war for years. They were making rapid conquests. Our allies at that time, China, Russia and England, seemed almost helpless in the face of an enemy attack, and we were confronted with the job of arming not only ourselves but our allies. This meant that every scrap of steel,

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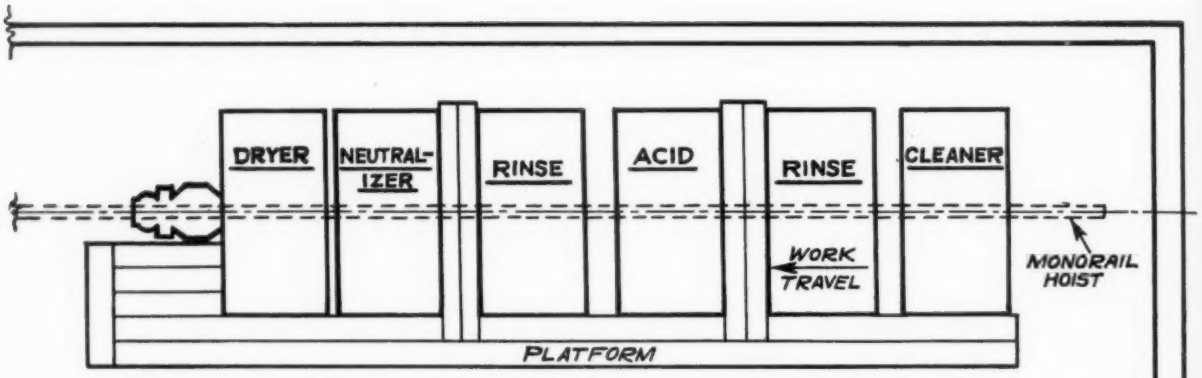
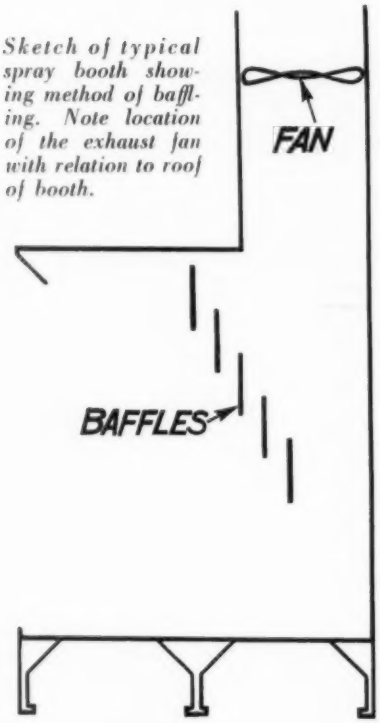


Sketch showing pickling and cleaning layout in Continental Industries' plant. Tanks are mounted above the floor level. The layout is designed for flexibility as it was contemplated that changes might be made.

Sketch of typical spray booth showing method of baffling. Note location of the exhaust fan with relation to roof of booth.



furnace conveyor manually. This is done by hanging the sprayed ware on bars mounted on skids. After being transported to the oven, the ware is transferred to the conveyor cross bars. Conveyor bar spacing is 30". Obviously, no alloy material is required for these due to the temperatures employed, which are in the range of 250° to 740° F.

The furnace has two zones — the first, a preheat zone, is approximately 23' in length and is heated by a 1,000,000 BTU per hour gas burner. The so-called "Hot Zone" is heated by a second 1,000,000 BTU burner. Each zone has its own re-circulating system which minimizes the flow of heat between the adjoining zones. As can be seen on the accompanying sketch, the heating cycle is designed to give 250° F. temperature at the entrance, 700° F. at the dividing line between the two zones, with a maximum temperature in the "Hot Zone" of 760° F., and approximately 600° F. at the exit opening. Both entrance and exit openings have the usual air screens to prevent excess loss of heat.

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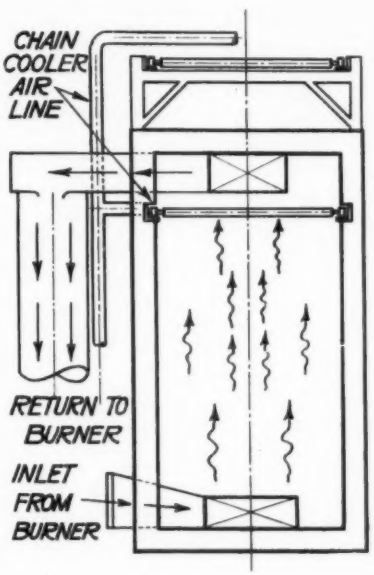
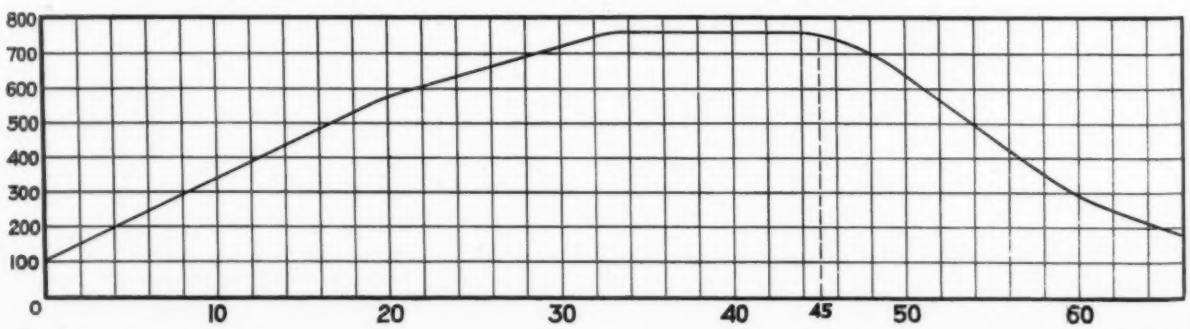
Below: Cross sectional view of new continuous oven showing air circulation system, method of cooling chain and conveyor roller arrangement.



This chart plots ware temperature in degrees F. against feet per minute of ware travel. Readings were taken by attaching thermocouples to the work throughout the full length of the oven and unloading section. (Unloading section to right of dotted line — loading section not shown.)



STARTING JANUARY 18TH

IT'S UP TO YOU!

STARTING January 18th, it's up to you to lead the men and women working in your plant to do themselves proud by helping to put over the 4th War Loan.

Your Government picks you for this job because you are better fitted than anyone else to know what your employees can and should do—and you're their natural leader. This time, your Government asks your plant to meet a definite quota—and to break it, *plenty!*

If your plant quota has not yet been set, get in touch now with your State Chairman of the War Finance Committee.

To meet your plant quota, will mean that you will have to hold your present Pay-Roll Deduction Plan payments at their peak figure—*and then get at least an average of one EXTRA $100 bond from every worker!*

That's where your leadership comes in—and the leadership of every one of your associates, from plant superintendent to foreman! It's your job to see that your fellow workers are sold the finest investment in the world. To see that they buy their share of tomorrow—of Victory!

That won't prove difficult, if you organize for it. Set up your own campaign right now—and don't aim for anything less than a 100% record in those *extra* $100 bonds!

And here's one last thought. Forget you ever heard of "10%" as a measure of a reasonable investment in War Bonds under the Pay-Roll Deduction Plan. Today, thousands of families that formerly depended upon a single wage earner now enjoy the earnings of several. In such cases, 10% or 15% represents but a paltry fraction of an investment which should reach 25%, 50%, or more!

Now then—Up and At Them!

Keep Backing the Attack!—WITH WAR BONDS

This advertisement prepared under the auspices of the United States Treasury Department and the War Advertising Council

Above: Spot welding inside liner plate for Army Field Range.

Right: Typical shearing operation on power shear.

FINISHFOTOS

A few interesting details might be added. For instance, the conveyor rolls run on 3½" angles, and the wall panels are recessed and provision is made so that the cold air injected into the oven first serves for cooling the conveyor chain in the hot zone, and this heated air is then used as a replacement or fresh air supply to the oven. The oven is designed to run with 7½% addition of fresh air.

A hood area is provided above the air seals at each end of the oven, and the trapped air is re-circulated through the "nozzle duct" at the opening of the oven. In this manner the hot air trapped from the air screen assists in keeping the return air at a temperature comparable to the oven temperature at each end so that not "too much" cold air is mixed.

While this description may sound complicated, the oven is actually comparatively simple in construction and operation, but does provide the heating cycle which we felt would be necessary to accurately meet the specifications set up by the Quartermaster Corps for "low temperature" ceramic finishes. Our experience based on tests of finished parts would tend to bear out our judgment in this respect.

Control Laboratory

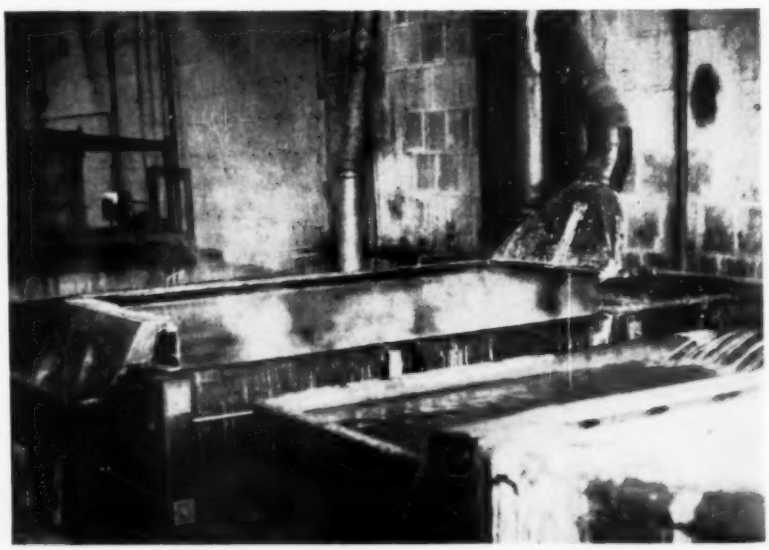
One other small but important division in our plant which was installed for the purpose of maintaining control over the operations in the finishing department is the control laboratory. Here the usual pickle room control tests are conducted by titration, and provisions are made for necessary tests of finished parts.

Other Possibilities

While our new plant was designed and constructed primarily for the finishing of parts for the field range, the Quartermaster Corps has already specified this type finish on other items such as tent hoods, spark arrestors, etc., and other divisions of the War Department have shown considerable interest in its possibilities.

Our plant is busy entirely on war work, and will, undoubtedly, continue on this basis as long as these war products are required. We have had considerable interest evidenced by metal product manufacturers in the possibility for use of this type of finish on post-war products. We do, of course, see decided possibilities in this connection, but feel our present job is to concentrate on war-time requirements.

This view of one of the pickle tanks shows the exhaust system which is used to remove steam and fumes from both cleaner and acid tanks.



1944 Looks Brighter . . *(Continued)*

every ounce of copper, everything that could possibly be used in equipping the army or the navy must be taken away from the civilians. Since that time a lot has happened. We have made munitions and supplies in enormous quantities. We have turned out airplanes in this country faster than all the enemy countries combined. We have built an enormous navy. We have equipped our soldiers. We have sent large quantities of supplies to Russia, and other allies, and unless I am misinformed, we have built up pretty sizable stock piles for our immediate requirements. There are reports today that the demands of the armed services will be limited to not a great deal more than replacement of expenditures. If this is true, there will be a little more steel and a little more copper, a little more of everything that we need.

It wasn't so long ago that pig iron was so tight that we were all badly worried. Today pig iron is available in reasonable quantities where it is needed. Today steel is tight, and I am not going to be so rash as to say that it will not continue to be difficult to get, but I believe there is going to be some available, more, in fact, than there has been in the past. The same thing may be true of copper. Even if the additional quantities of steel, copper, and other materials are not large, they will be enough to make it possible for us to serve the public better than we have been able to during the last twelve months.

There is no indication, so far as I know, that the labor situation is improving, but this is a challenge to manufacturers' ingenuity and one, I am sure, that they will meet successfully . . .

Gleam of Light

The last gleam of light coming through the branches is the improved military situation. It was approximately two years ago that Pearl Harbor was attacked and we were, broadly speaking, without an army and without a navy. Our future allies seemed to be in desperate straits. It is not at all certain that England would not be invaded; the Russian war seemed like a foot race only it was going in the opposite direction then, and China appeared to be thoroughly impotent. Since that time we have taken men out of the factories for the army. We have supplied them with arms and ammunition. We have supplied our allies and notwithstanding all the denials from official sources, I feel, as I have for a long time, that we are very close to the end of the European war, and not far from the end of the Japanese war. Again you may accuse me of unreasonable optimism, and again I shall say that it is a very comfortable affliction.

As I look at what has transpired and try to judge the future by the past, 1944 looks much brighter to me.

Females are Practical . . *(Continued)*

care, and I was delighted to find that over 20 per cent of those who voted for the Dream Kitchen actually voted for 100 per cent open planning. As one women explained:

> "We live in an informal community where neighbors call in the morning and friends come for dinner and help with its preparation. I could entertain with ease and in a beautiful setting in a kitchen that opened into a living-dining room."

The Kitchen of the Future has takers, thousands of them. Careful analysis indicates that temperamentally, the women who voted for the new kitchen are quite different from those who voted for the old kitchen and age is not as important as you might think. Sixteen or sixty—if they liked it, they liked it.

Obviously, the modern group are not as domestic as the traditional group. Cooking is not a rite to be performed for duty's sake. Their imaginations are active. The modern voters see the possibilities of having a kitchen which is not an isolation ward tucked away in the back of the house. Our charts of comments show hundreds which say that cooking in the Kitchen of the Future would be "fun", "easy", "play", "no work at all", "a pleasure", "less work". Moreover, they realized that the darker cabinets would require less upkeep and cleaning.

Their comments on this point went like this:

> "Since I want children, I prefer soft wood tones rather than the all-white ones, 'cause the white would be hard to keep clean."

Again:

> "Due to my small children I think having natural wood cabinets would be easier to keep clean."

The women who approved wholeheartedly the Tried-and-True Kitchen are the practical, conservative, budget-watching home bodies. The women who brag about their cooking as well as those who have accumulated cooking utensils they are fond of. As one woman wrote:

> "I'm a conservative New Englander and have a limited budget. The Tried-and-True Kitchen for me. Let a more adventurous soul experiment with the marvels of the Day-after-Tomorrow Dream Kitchen."

A careful study of the kitchen entries quite conclusively indicates that there is a conservative group of women who are reasonably well satisfied with present kitchens and equipment. This group wish after-the-war equipment to be sure-fire and time tested.

On the other hand, there is a progressive group of open-minded women who are following new developments, who are avid for time-saving and efficient appliances and who are ready at the drop of a hat to have such equipment installed in their homes.

In kitchens, then, as in every part of the house, manufacturers are faced with a dual market. In some cases appliances which appeal to both groups can be developed, but there will be a market for conservative appliances as well as appliances which are path-making innovations.

Planning a Finish!

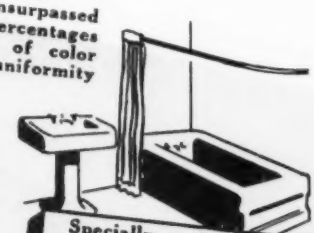
USE HOMMEL FRIT and OXIDES

Hommel Spray Guns can't be beat.

It will pay you to investigate the advantages of using O. Hommel Co. line of Frits, Enameling Oxides and Clays.
Use Porcelain Enamel to replace organic and synthetic resin finishes. Time proves the advantages of porcelain enamel.
Hommel enameling oxides are unsurpassed in strength of color. Lower percentages mean lower cost. Thousands of color shades are available. Absolute uniformity in color for over 52 years.

Hommel Ground and Cover Coat Frit combined with enameling oxides (your choice of hundreds of colors) give them the necessary brilliance and permanence. Maintenance costs are practically eliminated.

Porcelain Enamel is a successful finish for service stations and architectural work. Attractive color combinations with Hommel enameling oxides. OHCO Frit gives a permanent finish of everlasting sales appeal.



Specially designed OHCO Frits developed to produce a finish for sanitary ware that has lifetime beauty. Porcelain Enamel is the only seamless finish that can be used in any permanent color.

OHCO porcelain enamel offers many advantages for architectural beauty and permanence. Low original cost, low maintenance cost, impact resistant, and weather resisting.

The only finish that looks clean and is easy to clean. The housewife buys it because the finish is porcelain enamel. OHCO Porcelain Ground Coat, Cover Coat, and Acid Resisting Porcelain Enamel will make your product better and more salable.

Hommelaya Frit

Hommelaya, Hommel's one coat white porcelain finish has been tested and proven on actual products over a period of ten years. It is a development of The O. Hommel Co. engineers that has been constantly improved since its introduction. Years of intensive research work and production experience give you a porcelain finish that will lend all the beauty and durability of porcelain enamel to your products at a savings of about 1/3 over regular enameling procedure. Many of the products shown in this advertisement were finished in Hommelaya and have been in service from 2 to 10 years. The O. Hommel Company does not claim Hommelaya to be a cure-all for the enameling industry, but it has a definite place and can assure the enameler substantial savings when recommended by us.

★

Hommel's new porcelain enamel finish will bring new beauty to products now using porcelain enamel and is adaptable to many products that have been denied the advantages of porcelain enamel in the past.

THE O. HOMMEL CO.

209 Fourth Avenue Pittsburgh, Penna.

"The World's Most Complete Ceramic Supplier"

Using P. E. Equipment for Uncle Sam . . *(Continued)*

Payne-Mahoney started in business in 1929, in a little 20 x 40 enameling plant. Undismayed by depression conditions, they started to energetically sell porcelain enamel for illuminated sign faces. The hanging type of furnace, designed by themselves, was one of the first of its kind to be built. For some time it was the only electric furnace for porcelain enameling on the Pacific Coast. Now a stove manufacturer has installed this type of furnace. Gradually they convinced sign producers and users that porcelain was a practicable and economical material. Gradually they enlarged their miniature plant.

They extended into general jobbing, doing show case exteriors, refrigerator work, rest room equipment; but above all, signs—commercial signs and traffic signs. Now they occupy over 15,000 square feet of floorspace and own their own building.

"We are ready for the postwar demand for porcelain enamel," Mahoney says. "We believe it will be a big demand. In fact, the demand already exists. We are not fooling ourselves that reconversion will be without its difficulties, even though mechanically it will be relatively simple for our plant. The difficulties will be in obtaining materials quickly and in getting skilled people back to work. . . . . In the matter of materials, it is unlikely there will be release of restrictions until the Government is certain that the Army and the Navy are through. We shall have to face these problems, in greater or less degree during the first year of peace.

"But we are optimistic. We see a very fine future ahead for our industry, which in more ways than one has been tested by the war."

Follow FINISH and you will read more exclusive stories by Miss Gidlow concerning enamel plant activity on the West Coast.

A War Baby — Man Size Job . . *(Continued)*

and not to a beautiful walnut grain cabinet. Although this might be desirable from an appearance standpoint alone, weight and cost restrictions would make it impossible to consider. Low cost was another essential in order that the heaters would be available to all who needed them.

First we considered porcelain enamel for the exterior only, but we finally decided to finish all the metal parts instead of compromising. As a result the new Conservator Heater has 42½ square feet of porcelain enameled steel including such parts as base, body and jacket as well as 47⅓ pounds of enameled cast iron including top, doors, door frame, hinges and collar damper.

All this production is maintained in our own plant; the porcelain enamel being fired in our continuous electric furnaces.

Most Important Job

While we are still continuing to do other war work, we have felt that in producing large quantities of coal heaters to meet urgent requirements our company has been playing at least a small part in helping the war effort.

Wartime Stove Conference . . *(Continued)*

cooperation with stove manufacturers.

Highlights from the social angle were the Annual Dinner for the Board of Trustees and Members of the Executive Committees on Wednesday evening, an "Open House" by Robertshaw Thermostat Company in their suite at the Netherlands Plaza, and the President's Reception and Dinner on Thursday evening. After-dinner speaker at the President's Dinner was Alden P. Chester, Vice President of Globe American Corporation, Kokomo, Indiana.

Newly elected officers of the Institute for 1944 are:

President: John E. Russell, President, Majestic Manufacturing Company, St. Louis, Missouri.

New Institute Trustees

Henry H. Morse, *Vice President*
Florence Stove Company
Gardner, Massachusetts

S. E. Little, *Vice President*
American Stove Company
Cleveland, Ohio

R. W. Turnbull, *President*
Edison Gen. Elec. Appl. Co.
Chicago, Illinois

Albert M. Kahn, *Vice President*
Estate Stove Company
Hamilton, Ohio

John E. Russell, *President*
Majestic Manufacturing Co.
Saint Louis, Missouri

Lewis Moore, Jr., *President*
Marshall Stove Company
Lewisburg, Tennessee

J. L. Raulston, *General Manager*
United States Stove Company
South Pittsburg, Tennessee

Bolling Jones, Jr., *President*
Atlanta Stove Works, Inc.
Atlanta, Georgia

Foskett Brown, *President*
Gray & Dudley Company
Nashville, Tennessee

Vice President: Henry H. Morse, Vice President, Florence Stove Company, Gardner, Mass.

Secretary: Foskett Brown, President, Gray and Dudley Company, Nashville, Tennessee.

Assistant Secretary: Jennings B. Gordon, President, Southern Co-Operative Foundry Co., Rome, Georgia.

If we can judge from the attendance at meetings, the amount of open discussion and the obvious preliminary work done by those Industry members who led the discussions, it would seem that this Institute group should go a long way toward ironing out their mutual problems through cooperative effort.

Left: Smiling "Sam" Dunckel, Managing Director of the Institute—Right: Cribben & Sexton's Vice Pres., Frank Hoenigmann.

Below: Chicago Vit's "Ed" Smith tickles the "funny bone" of Renown Stove's Sales Mgr., M. J. Turck.

STOVE CONVENTION PHOTOS

Below: These happy American Stove men are E. C. Holt, Cincinnati Representative, and "Mark" Pender, Washington Representative.

Below: Robertshaw's Sales Manager Frank Post (left), with "Sam" Harrington, Purchasing Agent for A-B Stove.

ADVERTISERS' INDEX FOR JANUARY, 1944, FINISH

If you find this publication useful, please consider the fact that these, the original advertisers in FINISH, made its publication possible.